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GHANA: CHANGING VALUES/ CHANGING TECHNOLOGIES

Ghanian Philosophical Studies, II

Edited by
Helen Lauer

The Council for Research in Values and Philosophy

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PREFACE

George F. McLean

Cooperation between peoples is a notoriously difficult affair. This can be seen in the continuing struggles to maintain a wholesome neighborhood with appropriate healthcare and progressive education, even in the homogeneous neighborhoods of wealthy nations.

It is reflected even more where these common problems must be faced by communities made up of different ethnic groups as occurs increasingly in the case of economic or political immigrants, for example, the "guest workers" in Western Europe or the African refugees in Southern Europe. This challenge, over long periods of time, can remain potentially explosive and be detonated with ferocious effect, as can be seen in a Kosovo or a Chechnya.

Perhaps nowhere is this difficulty of cooperation and collaboration greater than in Africa where it has been complicated by successive waves of slaving both internal and external, colonial empire building, local ideologies, foreign commercial exploitation and manipulation by international financial institutions. The present volume describes this in great detail with regard to Ghana.

Where the other volumes in this series have focused in the philosophical issues of social and cultural life, the present volume provides a special addition to them, namely, rendering these issues most concrete in terms of the primary physical resources of the country, the potentiality for cultural change, the efforts of the national government and interaction with external financial institution.

The introduction identifies each chapter in detail and draws out some of its salient points. Here I would underline some crucial lessons which emerge from the work as a whole.

The first is the importance of the culture of the people. Both by positive and negative examples, the first three chapters lay out the indispensable importance of building upon the culture of the people. This is not merely a pragmatic matter but the sole way to engage the people in any continuing project. It is then a matter not merely of efficiency, but of the very viability of development efforts. But beneath this and more radically it is a matter of working in a humane manner with the people, its proper dignity and its concerns. This is the point of real importance and the reason why any approach which ignores this is not only inefficient, but damaging to the people and hence doomed ultimately to failure.

In this light there appears an interesting contrast between the first two chapters. Chapter II, "Modern Technology, Traditional Mysticism and Ethics in Akan Culture," by George Hagan proceeds on the Western rationalist and materialist act of faith that all is in principle physical and if only it could be adequately known all would be able to be stated in physical terms. In this reductionist view the mystical is but mystification and respect for African thought lies in showing how, despite its mode, it is capable of being materialistic with the best of the West, or at least not incompatible therewith.

Chapter I, "Culture: the Human Factor in African Development," by Kofi Anyidoho, on the contrary, does not share that compulsion to be like the West, especially in its materialistic reductionisms, but seeks rather to take seriously what the culture of the people affirms. He sees their greatness in not having compromised with the abstractness of technological reason. He lets them say what they mean and, above all, mean what they say.

This is not merely a request that a relic from the past be protected and preserved. The chapters show also how these cultural elements not only are not against progress, but provide the

social grease which can enable newly imported developments to work. Moreover, as Kwame Gyekye shows in his chapter, "Traditional Political Ideas, Their Relevance to Development in Contemporary Africa," in *Person and Community, Ghanaian Philosophical Studies, I* (Washington, D.C.: The Council for Research in Values and Philosophy, 1992), pp. 243-255, the culture contains elements needed, but sorely lacking, in the modern democratic structures of the North.

The second is the immense difficulties faced by a country such as Ghana in its effort to protect and promote its people. Each effort taken by private citizens and government to employ technology or convert ancient forms into modern commodities bears great costs whether of health in processing minerals (gold), or of agriculture and fishing in generating power or irrigation (the Volta Dam), or of culture in seeking to draw revenue from folk music or medicinal herbs. Rich resources are not readily convertible into cash for a money economy; indeed they are very likely to be destroyed or to destroy people in the process.

The third is the vulnerability of the people in these circumstances to exploitation by forces from within the country which possess the power, or from outside the country which either operate world commerce or control the monetary system. Most countries complain of the ruinous effect of policies imposed by the International Monetary Fund in favor of the lending nations, but seldom have the effects been more effectively or expertly analyzed from the point of view of a debtor nation than here in Chapters 4 "Counter-productive Socioeconomic Management in Ghana" and 5 "Informalization and Ghanaian Politics," and even in the Epilogue "Some Thoughts on the Future of Ghanaian Universities" where the concrete effects on the system of higher education are detailed. Chapter 5 analyses exhaustively the attempt to put a good face in this by considering it to be a liberative attempt to develop an informal economy where, in fact, it is no economy at all, but the desperation of impoverishment.

Last is the importance of learning again how to live with, rather than against, the physical, social and cultural environment. While Chapter 1 describes a negative experience in this regard, Chapter 11 "Participatory Integrated Pest Management: IPM Training Methodology in Ghana" details at length the way in which this can be done in agriculture in ways that largely eliminate the dangerous use of pesticides and at the same time build human capacity and cooperation. It is a lesson emerging from the aids conference held in Natal in 2000 that Uganda and Senegal by intensive use of social means reduced the rate of infection by 50 percent and without access to the expensive and complex medicines which can be effective only with the health infrastructure of the first world.

In view of the above, this second volume in the RVP series: *Ghanaian Philosophical Studies* reinforces the content of Volume I, *Person and Community*. That volume richly analyzed the nature and structure of Ghanaian culture as regards its identity and epistemology, anthropology and metaphysics, ethics, politics and religion. It richly identified what the wisdom of this culture had discovered regarding what was worth living for, and the quality of life. The present volume turns more toward how to live and carries this investigation into the concrete details of the travails of all dimensions of Ghanaian life. In so doing it illustrates the dangerous and dehumanizing delusion of attempting to substitute one's own identity by another imported from without. Conversely, it implies that progress lies rather in adapting life carefully to the physical and social environment and that the needed resources are to be found first of all in the heritage of the people.

This, of course, is precisely what is meant by culture as the way of cultivating human life in the concrete circumstances of time and place. What the present volume makes clear is just how

difficult and delicate is this task. It is possible only by engaging the free creativity of all the people. Without that all efforts will be destructive and hence destined to failure.

For the present analysis all are indebted to the work of the authors, drawn especially from the outstanding faculty of The University of Ghana, Legon. Indeed, the work itself gives rich testimony to the rising conviction that the development of tertiary education and related research cannot be left to government, which has difficulty appreciating it and providing for its needs. It is impressive therefore to see this team come forward with their professional competencies to carry out the work *pro bono*. If Africa is to rise it will have to be on the basis of the varied competencies found in all dimensions of its people and brought forward due to their moral stamina. This is civil society at its best as people assume responsibility for their life and that of their people, each with their own abilities and in their own area.

Not least, moreover, tribute is due to the personal efforts of Helen Lauer in Legon who evoked but has not replaced, the competencies of her fellow professors, and of Hu Yeping and Nancy Graham in Washington who carried the manuscript through to completion. They reflect the best of international cooperation.

INTRODUCTION

Helen Lauer

Humanists in affluent societies concerned with the welfare of low-income, debt-servicing countries typically lack information about how ordinary citizens in those countries cope daily with drastically limited infrastructure. This lack of data handicaps international debate about whether debt-imposing countries bear any ethical obligations to distant people living under the pressures of external-debt servicing.

Today's foreign aid packages yield morally controversial consequences for the non-elite majorities who have no access to stable foreign currency in low-income, debt-servicing countries. Technology transfer is just a part of this larger network of international financial arrangements and development contracts. One currently accepted method of analyzing the socioeconomic consequences of technology transfer is to dissect it into value-laden vs. value-neutral components. It has been argued that one can isolate the artifacts of industrial development — the machinery and installations themselves — as a hard core or essential base of technology transfer. This inert core is comprised of value-neutral mechanical devices and electronic vehicles able to realize a wide range of negotiable, value-driven human intentions.¹

But from the standpoint of technology recipients in Ghana, facts about what a new installation can do technically are no more essential or basic than facts about who will be entitled to its use and who will be responsible for distributing its benefits and costs. Such concerns do not reflect peculiar prejudices that Ghanaians in particular harbor towards technology or its control so much as the primary concerns of any rational agent forced to contend with an egregious scarcity of resources in a severely debilitating infrastructure. Significant cultural differences do exist between Ghana's traditionally agrarian social norms and the values dominant in a technocracy. But devoting excessive attention to such differences obscures a crucial failure among foreign policy makers and moral theorists: typically when debating and constructing economic policy, they fail to rely upon Ghanaians' own authoritative experience in coping with extensive economic and technological deprivation. This volume attempts to correct the shortfall in published Ghanaian opinions about new technology and the conditions of its transfer.

It must begin with reference to the outstanding volume I of this series of Ghanaian Philosophical Studies, *Person and Community*, edited by Kwasi Wiredu and Kwame Gyekye, with the outstanding collaboration of W. Emmanuel Abraham, N.K. Dzobo's studies of Akan culture, Joyce Engman and J.N. Kudadjie. That volume forms the philosophical basis upon which subsequent studies of Ghanaian culture must build.

Here in Chapter I, "Culture: the Human Factor in African Development," Kofi Anyidoho argues that there is a crucial link between respecting cultural integrity and successful implementation of economic development plans. He reviews the thirty-year history of a notoriously disappointing agricultural development project first established using military force at Wheta in the Volta Region. Since the 1960s various projects in Wheta have been administered under the state's centralized Irrigation Development Authority. The root problem with these early efforts engaging foreign capital in agriculture was their disregard for the expertise of individual farmers and the cultural integrity of the farming community. Anyidoho explains that 'culture' denotes not only festivals, craft industries, drumming and dancing; it correctly refers to the whole yearly work cycle and the daily routines that characterize a way of life. Interpreting farmers' agro-economic needs for them is not merely ineffective; it is also, arguably, unethical

insofar as it denies the authority of a people's own culture, and hence their cumulative creative freedom.

Astonishingly, a posture of moral condescension still flourishes in the current professional literature on development theory and practice, reflecting the standard presumptions of the 19th century effort to rationalize colonial policies. Overseas development agencies today assert coercive economic power through field workers who are instructed to "interpret the real needs of the . . . poor," and to investigate "local authorities . . . to monitor the appropriation of program benefits." It is assumed by the aid agency, OXFAM, that the job of its representatives is to "make ethical choices about the distribution of scarce resources," to "stimulate self-confidence and to make beneficiaries aware of their value as human beings . . . and their capacity to take charge of their own lives."² Moral disdain for 'Third World' statesmen, community leaders and general public is likewise echoed in statements published by World Bank officials. For instance, the former Vice President of the World Bank in charge of affairs in West Africa claimed when interviewed that without Bank intervention young Sahel girls would never learn to read. Problems arising from inadequacies in World Bank fiscal advice are routinely attributed to the "ineptitude" and "corruption" of African political leaders.³

Exposure to the global economic facts related to Africa's current socioeconomic disarray may help to avoid the mistake of attributing the scarcity of technology in Ghana to some culturally determined aversion or incapacity borne by Ghanaians with respect to mechanistic or scientific ways of reasoning. In Chapter II, "Modern Technology, Traditional Mysticism and Ethics in Akan Culture," George P. Hagan corrects a popular misconception that African traditional religious doctrines undermine the cognitive effort to develop scientifically a sustainable technology and a reliable industrial base for the country. On Hagan's interpretation, there is no contradiction between the Akans' traditional religious accounts of physical reality in mechanistic terms, on the one hand, and their treatment of spiritual and ethical concerns constituting social reality, on the other.

In Chapter III, "Traditional Ga and Dangme Attitudes towards Change and Modernization," Joshua N. Kudadjie illustrates how specific proverbs of the Ga and Dangme people (living in the Greater Accra Region) encourage skeptical restraint, yet flexibility and toleration towards modernization. In proverbs, people are advised against the uncritical embrace of attractive yet untested imported innovations. As a medium for issuing moral judgments and directives, proverbial discourse presupposes familiarity with the circumstances and particular relations between the moral agents involved in a specific situation of social or economic transformation. Situation ethics is the label sometimes given to this focus in moral reasoning upon the specific details and relations that identify individual moral agents uniquely as ethical decision makers and human rights contestants. Situation ethics neatly characterizes some features of traditional Akan morality. What goes into making a human being significant as a moral agent is the particular obligations, social relationships, and thereby the experiences that define that person uniquely within a specific social constellation. This traditional prioritizing of individuals' interdependent roles within the extended family and community is generally lost in the normative picture of development painted by socio-economic experts from outside Ghana. On occasion an attempt is made to exploit the humanistic ethic that follows from this "brother's-keeper" orientation, as when World Bank literature explicitly encourages confidence that the traditional extended family system will function as a "safety net" for those destitute enough to be otherwise completely destroyed by the discontinuation of social services and related "fiscal discipli[nary]" measures mandated by IMF.⁴

In general, when seeking newsworthy stories or ‘human-interest-story’ material suitable for a worldwide audience, the international media disregards everyday experiences that are in any way specifically African. It remains a rude fact that most of what we hear about Africa concerns mammoth death tolls consequent upon epidemics, political and natural disasters — typically reported in the voice of a European, Anglo-American, Anglo-Asian or African-American spokesperson for Africa. In any area other than revolutionary politics, the internationally publicized voices of authority and of subjective opinion do not yet include the mature voices of Africa.⁵

From within Ghana in particular, news of the currently escalating economic crisis is usually not forthcoming. This is partly because many Ghanaians consider it in bad taste, at times self-destructive, to speak out as individuals to publicly embarrass authority figures guilty of abusing political or administrative power. Whistle-blowing and finger-pointing are not viewed by Ghanaian intellectuals as their civic or moral duty. Academia in contemporary Ghana does not sport the fringe of adamantly vocal professionals found in a late capitalist welfare state like the USA, where it is stylish for academics to adopt a morally high ground from which they function as self-appointed watchdogs of the overall system. In a traditional African community’s public affairs, only the prestigious master drummer of the royal court and other suitably recognized officials can correctly assume the carefully circumscribed responsibility of publicly criticizing a chief on behalf of his people. Even then the criticism is couched in elaborately formal protocols, using the sacred, impersonal symbolism of drum language or the stylized indirection of proverbial speech. This duty to conscientiously protect the integrity of public authority carries over in modern day notions of the individual’s civic responsibility. The carry-over is particularly pronounced when individuals confront the post-colonial international arena, where West Africa remains the focus of essentially exploitive and self-interested (or at best condescending) attention by foreign developers, speculators and assorted experts.

Notwithstanding their reticent international profile, Ghanaian intellectuals (especially lawyers and historians) have been notoriously troublesome to ruling elite classes since political independence forty years ago. But this pestering has been sustained exclusively in the arena of domestic politics, without appealing for the attention of the international human rights community. For instance if one scans reports that were published by Amnesty International in the middle and late 1980s, one finds no record of human rights abuse in Ghana. Yet in retrospect, that period of military rule remains notorious for the extra-judicial killings and state terrorism that then prevailed. More recently, the longest strike by university faculty in the history of the country (1995) miserably failed to save university education from the sacrifices made by the government in fulfillment of IMF demands on World Bank borrowers. Yet through the duration of their strike, Ghanaian academics remained mute in the international press while Ghana’s president simultaneously received honorary doctorates in the United States, where he continues to be lauded as a progressive champion of education for the masses. Thus, the international arena witnesses none of the signals one might expect to be generated from the intelligentsia of a sophisticated society that is undergoing virtual economic genocide.

Without relevant information when visiting Ghana, it is easy for affluent professionals witnessing extreme poverty to misconstrue the success of coping strategies as evidence that local living conditions are tolerable.⁶ Meanwhile, the World Bank generates masses of annual country reports, advisory pamphlets, discussion papers, catalogs, research journals and yearbooks that obfuscate the evidence suggesting that causal connections exist between the Bank’s fiscal instructions and the increasing domestic poverty throughout the country. Consequently the most

deleterious effects of 'structural adjustment' policies remain invisible to concerned outsiders. In Chapter IV, "Counterproductive Socio-Economic Management in Ghana," A.O. Abudu explains how specific policies of the Structural Adjustment Program for Ghana (SAP) may be interpreted as perpetuating the former adversarial relations between the British colonial power and the local public subjected to it. In Abudu's view, even if foreign experts today were fully knowledgeable about Ghana's economic circumstances on the ground, it would still be a violation of democratic principles to have foreign expertise determining domestic policy, as is the current trend. He argues that since citizens bear the tax load and related sacrifices requisite for 'national economic recovery' as it is currently defined, it follows on grounds of fairness that citizens should be compensated by participating in decisions about the direction of economic development and the vehicles chosen to facilitate it.

In Chapter V, "Informalization of Ghanaian Politics," Kwame A. Ninsin details how events on the domestic political scene since independence have disenfranchised and dissipated Ghana's labor resources — a process called 'informalization' of the economy. Essentially, informalization amounts to an orchestrated, intentional institutionalizing of massive unemployment. He details how specific stratagems to fracture and dissipate the lower middle classes and the unemployed have succeeded in sustaining the present regime's stronghold for many years under the guise of wide populist support. Ninsin argues that some foreign sociologists mistakenly romanticize this decentralizing of economic activity because they misunderstand it. The last-ditch efforts of laid-off Ghanaians fighting destitution in isolation are not comparable to the creative job alternatives fashioned voluntarily in a late-capitalist welfare state by maverick self-employed entrepreneurs. The latter are seeking to escape the conventionality of salaried positions in corporate structure. But the situation in Ghana is quite different. In a stalled economy, with no wage-earning prospects, no means of travelling for new job opportunities nor saving to invest in new skills or in technical inputs, Ghanaian workers who survive in the informal sector cannot be said to freely choose the self-employment they have pieced together in makeshift stalls, backyard industries and roadside retail hawking. Yet this informal economy now constitutes well over half of the nation's commercial activity. To comply with World Bank dictates the government publicly encourages new college graduates to get a foothold in such 'private entrepreneurial' activities instead of seeking salaried job opportunities that do not exist in the formal sector.

When queried, Ghanaian intellectuals typically do not blame foreign-based policy makers for the economy's problems. More directly, critics blame the current get-rich-quick style adopted by Ghana's own government leaders and administrators. There is a lack of the initiative and imagination necessary to carry national economic policy beyond the crisis-management tactics mandated by foreign financiers. Today's foreign financiers are primarily concerned with the global movement of capital, not the welfare of the Ghanaian population. In this respect, the basic principle underlying Ghana's commerce with the outside world has not changed in 500 years.

An absence of innovation in domestic economic policy is also the complaint of some staunch apologists for the Structural Adjustment Program. It has been argued that the hardships incurred by implementing SAP in the early 1980s were ethically compensated by the fact that the SAP prevented civil war in the country. However, it is moot whether the appalling economic conditions that prevailed in Ghana during the 1980s actually did threaten an outbreak of civil war. Since the SAP was enforced, the fall of the cedi by 2,000 percent has not yet inspired widespread civil unrest. Nevertheless the gross distortions that have accrued since 1983 (when SAP began) have been analyzed as symptoms of "adjustment fatigue,"⁷ implying that the IMF's

'structural adjustment' policies in Ghana have outlived their utility and that a subsequent stage of development policy from within is long overdue.

Political leadership is not an easy thing to change in Ghana today, particularly since the formal trappings of democratic process make it simple for a campaigning incumbent to achieve sustained populist support in an election year, chiefly by monopolizing the broadcast and print media. In Chapter VI, "Manipulation of the Mass Media in Ghana's Recent Political Experience," Joseph Osei argues that the strategies involving communications technology that ensured presidential victory in the 1992 and 1996 elections without highly visible civil unrest were nonetheless ethically dubious. Substantial civil unrest followed each election although this fact was never evidenced in any internationalized media coverage. Since 1992 court cases remain pending that concern the regime's prohibitions against effective political campaigning by any opposition party.⁸

Egregious diversions from democratic process go unchecked in Ghana, since foreign investors are interested in safeguarding their accumulation of capital. Hence, they approve — indeed, they encourage — political stability at any social cost. One may argue that the general voting public within Ghana over the last twenty years has been intimidated by episodes which include extra-judicial killings and detentions, imprisonment of journalists, gratuitous displays of fire power just prior to Election Day in 1992 and 1996, dawn to dusk curfews accompanying both election periods and non-election periods, staged disruptions of peaceful office-worker demonstrations, tear-gassing and televised clubbing of student demonstrators. In such a climate the general public may be relied upon to dispatch election formalities peacefully in order to avoid confrontations with the military. Meanwhile, the American corporate community is treated to expensive advertising by the government of Ghana that features its economy as robust and bursting with exciting investment and tourism opportunities at every turn. Building an economic climate to enhance Ghanaians' opportunities for investment and leisure is pre-empted by vigorously preparing a liberal trade environment attractive to foreign corporate investors.

A striking contrast exists between the laissez-faire capitalist view of individual civil and property rights and the West African traditional belief that one's freedom as an individual is not inherently opposed to one's interdependence with others and one's consequent social obligations and role in contributing to the community overall. In Chapter VII, "Plant Biodiversity, Herbal Medicine, Intellectual Property Rights and Industrially Developing Countries: Socio-economic, Ethical and Legal Implications," Ivan Addae-Mensah illustrates the link between disregarding intellectual property rights of individual African herbalists and disqualifying African communities from the commercial benefits of their local practitioners' expertise. Developers of anesthetics, anti-diabetic and anti-leukemic drugs, and researchers into cancer and the AIDS crisis, all routinely depend on the essential expertise of African traditional practitioners of tropical plant medicine. Ironically, in their 1997 plan for a national health insurance scheme, health authorities in Ghana rejected incorporation of herbal medicine because "the Ministry of Health says herbal medicine practiced in the country has no scientific basis."⁹

Along with respect for the intellectual and cultural property of individuals, there is the need to protect legally both human and natural resources from the extractive power of foreign capital. In Chapter VIII, "High-technology, Individual Copyrights and Ghanaian Music," John Collins details the incongruities for protecting artistic property rights that have recently emerged since Ghanaians adopted computerized music and foreign legal provisions. Digitalizing music has peculiar effects on the aesthetic quality of Ghana's varied folkloric productions, particularly since each live performance in every genre of traditional music is especially valued for its

nonreplicable originality and its context-dependent uniqueness. These aesthetic qualities inherent in live traditional ensemble work are virtually obliterated through the artifices of electronic sound reproduction.

Western copyright law, designed to protect claims on printed property, is comparably alien to musical production in a living oral tradition, according to Collins. He argues that unless appropriate legislation is crafted to accommodate the complexities of African musical composition and the special conditions of its creation, the effort to protect indigenous artistry will be wholly self-defeating. Appropriate legal protection entails safeguarding Ghanaian artists' rights to exploit their own folkloric heritages while constraining foreigners from doing the same. Favoritist protection of human resources may be an essential contribution of the judiciary towards asserting Ghana's cultural integrity in the modern world.

The moral dilemmas arising from modern medical practice mark an extreme case of technology's confrontation with traditional norms concerning the scope of personal freedom. A good example of this tension and how 'situationist' moral reasoning might resolve it is evident in the Akan view of euthanasia, discussed by Kwasi Agyeman in Chapter IX, "The Impact of New Medical Technology upon Attitudes toward Euthanasia among Akans". As a policy couched completely in the abstract, euthanasia cannot be morally evaluated by a situationist at all, since the moral features of any collective action are determined by specific facts concerning the agents involved on a specific occasion. For the situationist, when making the choice to die becomes a corporate decision new technology reconstructs the moral significance of a death. In the Akan view, it is morally acceptable to end one's own physical life in order to sustain one's spiritual dignity, but this does not extend to approving the behavior of a second party who assists technically in the implementation of that decision. Thus Akans achieve a kind of resolution between their respect for individual integrity through self-determination, and their respect for the ultimacy of divine power that does after all determine life and death.

New technologies intervening in the human reproductive process arrive packaged in Western ideology that contributes to people misinterpreting their relation to the environment. In Chapter X, "Population Growth and Ecological Degradation in Northern Ghana: the Complex Reality," Jacob Songsore explains that preoccupation with population growth and foreign postulates about optimal family size and structure grossly camouflages the extensive network of factors contributing to environmental degradation in Northern Ghana. These factors include the government's uneven distribution of social goods and services nationwide, which reflects a vestigial pattern of colonial bias in favor of the southern trading coast. Consequently, to survive in Northern Ghana most farmers are forced into crisis-management strategies and over-concentrated uses of land. In the absence of improved crop and breed varieties, and without credit facilities, or paved roads, schools, clinics, water supply or electrical power to make village expansion coherent, these farmers are obliged to exhaust the land.

The argument for treating technology transfer as a moral obligation of affluent nations may involve the illusion that each new application of technical ingenuity marks an advance in human culture. It is now a familiar theme in post-industrial societies that less technology is better. This truism also holds in so-called 'underdeveloped' societies. For example in Ghana's development of food agriculture, a recent initiative drastically reduces farmers' dependency on manufactured products rather than increasing the repertoire of new technological farming methods. In Chapter XI, "Participatory Integrated Pest Management: IPM Training Methodology in Ghana," Kwame Afreh-Nuamah describes Ghana's new Integrated Pest Management (IPM) training program adopted after a successful pilot project in 1995, when he pioneered the introduction of techniques

that he researched in Indonesia. The key innovation of this training is that it enables farmers to improve crop yields by minimizing their use of imported toxic chemicals to control pests. The aim is to cultivate farmers' expertise in applied ecology. Farmers are trained to analyze their pest problems scientifically and to plan cooperatively their crop protection strategies, minimizing their use of toxic chemicals. They learn to support the natural balances that they observe directly between crop-friendly insects and the pests upon which they prey. In the process they develop capabilities and patterns of cooperation with other farmers in the area — itself an important community building process.

An important requisite for sustainable development is that the nation maintain control over its own natural resources and maximizes the domestic benefits of their use. In contrast, foreign advisors encourage Ghana to strive "aggressively"¹⁰ to nourish and protect the power of multinational corporations to extract the natural and human resources of the country for foreign profit. In Chapter XII, "Gold: the Link between Ancient and Modern Ghana," William A. Asomaning discusses the gold mining industry that is now dominated by foreign investors. Gold leaves the country without constraint; Ghanaian nationals legally control no ensured minimum percentage of shares in any gold mining operation. Extensive environmental damage due to mining continues; it is well publicized but remains unchecked. Meanwhile the tax revenue from gold exports is diminishing as the metal loses value on the global market. This is because the IMF and countries with stable currencies (e.g. Australia and Canada) have begun to sell their gold reserves and to restructure their banking systems to obviate reliance on gold. Asomaning recommends that Ghanaians realize the domestic commercial market value of their gold. As a traditional adornment of royalty, this precious metal is a key symbol of Ghana's legendary political strength. Promoting its domestic retail consumption as jewelry and other accessories would be a commercial gesture reuniting the private consumer with Ghana's powerful pre-colonial past.

Hydroelectric power is one of the natural resources over which the Ghana government has sustained its control. In Chapter XIII, "The Effect of the Volta Dam on Socio-cultural Changes for the People Living in the Mangrove Economy of the Lower Volta Basin," Kwadwo Tutu reviews the socioeconomic damages still in evidence in the immediate area of the great dam at Akosombo, three decades after its completion. In budgeting for the Volta river Authority's management of the dam, the government apparently did not accommodate the anticipated need to replace the dam's worn out turbines after 20-25 years of use. The dam had been functioning for thirty years without such replacement. In 1998 this resulted in an abrupt 70% reduction in the dam's productive capacity, slashing by 50% the nation's electrical power supply literally overnight. Without warning, for the better part of a year all electrically based services in all sectors were suddenly paralyzed or suffered erratic and debilitating interruptions of electrical supply. Employment nationwide was drastically reduced because of the swelling number of businesses: services and factories were forced to shut down. Full electrical capacity for the nation has been restored by resorting to supplements bought from neighboring Cote d'Ivoire. Yet the Akosombo hydroelectric power plant is advertised to the American corporate community as supplying "enough for the nation's needs."¹¹

A government servicing foreign-debt is in a double bind. On the one hand, it is obliged to fill its role as a good business partner to the international corporate elite. But foreign interests routinely interfere with local citizen welfare. In orthodox development theory, corporate rights to exploit natural resources for maximal profit readily compete with individual citizens' rights to safe drinking water, adequate food, sanitary shelter, and access to the fishing, grazing, farming

and forest resources essential to their subsistence livelihoods. So the government's role as custodian of the public's welfare is severely compromised. There is little consistency in the established policy of the World Bank or the IMF about how to resolve this tension. Literature generated by the Bank simultaneously condones and criticizes commercial regulatory interference in the allocation of natural resources. For instance, in a standard advisory document on the environment the World Bank denounces the state practice of supplying water as "government paternalism," preferring the "market-based atomized allocation of piped water and waste removal [since] . . . people prefer privacy, convenience and status" over public provision and open access facilities. Yet with respect to other resources the same document encourages that the people be served by non-commercial, collective, non-regulative management of land, fisheries, and wood-lots, encouraging open access over privatization, since "the rights to common property resources are all that separates the land-less and the land-poor from destitution."¹²

In his capacity as an environmental economist, K. Tutu works on a consultancy team that now advises the government on coordinating its planning in different sectors — for example, fuel supply, transportation, agricultural extension services, and sewage management — in order to make alternative energy sources financially feasible on a national level. He argues that one way to finance the processing of biogas is to organize the commercialization of its byproduct outputs and to make a commercially attractive venture of transporting the raw sewage input as part of the investment in processing the fuel itself. This means utilizing the byproducts for retail as soil fertilizer, and also arranging a profitable scheme that attracts private transport companies to provide the raw waste input, at biogas production sites, rather than their disposing of sewage in haphazard ways that minimize clients' costs while degrading the environment. Other energy-source options under study are solar power and liquid petroleum gas.

Ghana's ambivalent pursuit of nuclear power is reviewed in Chapter XIV, "The Nuclear Option for Ghana," by Josef K. A. Amuzu. Since 1961, plans in Ghana for building a nuclear research reactor have been reversed five times. This underscores the desirability of detaching national economic policy as much as possible from international diplomatic pressures. On the other hand, an accurate analysis of the special difficulties involved for low-income countries building a nuclear resource capacity cannot be isolated from global politics, despite cessation of the 'Cold War'.

In sum, this volume of essays documents the invaluable critical distance acquired by fifteen professionals through their extensive university training that began at the University of Ghana, as J.S. Djangmah highlights in the Epilogue, "Some Thoughts on the Future of Ghanaian Universities". Since pre-independence years, Ghana's formal education system has sustained the highest international standards, with college graduates excelling in post-graduate degree programs at the finest institutions around the world.

But in 1992, having complied with the World Bank's mandate to restructure the entire school system to yield a quicker, cheaper, American-style product — and to make the transition without additional financing — Ghana's education system reached a crisis point. In March 1993 the country's graduating senior high school class became the first to pass through the new American-style system. But 98.8% of this class finished their secondary schooling unqualified to take Ghana's own University Entrance Examination. Throughout the 1990s, while the schools were frantically revamping their programs and tripling their enrollments to abide by IMF demands, *no mention* was made of education in the World Bank's published 'country reports' on Ghana. In the 130 page country report issued in April 1991 the word 'school' appears only once, in

reference to a children's de-worming exercise. According to the World Bank's 1993 annual country report on Ghana, no cost-sharing reform of the school system had occurred. Surrealistically, the report urged that cost sharing be considered as an option.

In the 1993 document, the total annual cost of sending a child to primary school was quoted as 7,000 cedis and 2,000 cedis (in the city and 'rural' areas respectively). Yet this is a blatant fiction; 7,000 cedis would not settle the bill for even two of the required government set-price reading primers. The same report urged that the best way to ensure repayment of college loans is to deduct ten percent from the indebted graduate's first paycheck. Yet the typical monthly salary for a new graduate lucky enough to find a salaried job in the formal sector of the economy is unlikely to cover public transport costs to and from the workplace. (More recently the Bank recommends scratching the loan scheme outright.) Indeed, in 1995 the annual salary of a University Vice Chancellor was the same as that of a senior janitor or chauffeur at the Bank of Ghana, another parastatal agency.

The World Bank's published advice for tertiary education policy is explicitly contradictory. In January 1993, "recent research reflecting data from 100 countries" showed a "strong positive correlation between primary and secondary schooling and economic growth, where no such correlation was found for tertiary education." So Ghana's "shifting resources away from secondary and tertiary education need not result in lower economic growth." Only months later in a 1994 educational retrospective, the Bank reported that "recent research . . . from 100 countries . . ." indicated that "the development of higher education is correlated with economic development" and that "investments in higher education contribute to . . . higher long-term economic growth."¹³

Djangmah regards the problems facing Ghana's universities as soluble. But he argues that the indigenous faculty community should be playing a central role in finding solutions, rather than being sidelined as is the current practice of education reform committees. Where the bottom line of the policy proposed typically is drawn by foreign expertise. Yet it is a patent truism that the dilemmas encountered in rebuilding quality education, along with the other challenges of infrastructural development discussed in this volume, are most likely to be resolved through Ghanaian ingenuity, commitment, and initiative.

Legon, 1998

NOTES

1. Peter Caws, "Towards a Philosophy of Technology," Chapter 16 in his collection of essays, *Yorick's World: Science and the Knowing Subject* (University of California Press, 1993), pp. 196-209.

2. B. Pratt and J. Boyden, eds. *The Field Directors' Handbook—OXFAM Manual for Development Workers* (Oxford: Oxford University Press, 1983), pp. 81, 132, 144-145, 150.

3. Interview with World Bank VP for West Africa, E.V. Jaycox, "Are World Bank's Policies Working? Yes." *African Farmer The Hunger Project*, July 1994 vol.18. World Bank President B. Conable (1991), "Reflections on Africa" (Washington, D.C.), p. 5.

4. *Ghana: 2000 and Beyond*, February 1993, "Social Safety Nets and Traditional Coping Mechanisms" (The World Bank West African Regional Office), p. 15.

5. Perhaps this will change dramatically in the twenty-first century. For, if information and nuclear technologies wholly stratify and subsequently decimate over-industrialized parts of the earth, then Africa could become virtually all that remains recognizable of the 'Real World.'

6. Robert Chambers, *Putting the Last First* (Essex: Longman, 1983).

7. Jonathan H. Frimpong-Ansah, "Flexibility and Responsive-ness in the Ghana Economy: Reflections on the Post-Divide Atrophy Syndrome," *J.B. Danquah Memorial Lecture series*, 29 (Accra: Ghana Academy of Arts and Sciences, 1996), February.

8. Passed in 1992, the Political Parties Law outlawed campaign rallies scheduled after normal working office hours. It outlawed the association of former political leaders or party names with those parties registered for the 1992 race. The law prohibited outright any campaign contributions made by corporate bodies; and it outlawed any individual's contribution exceeding the equivalent of US\$200. Nor was 'equal time' on television or radio ensured for opposition candidates. In 1996 the promising presidential nomination of K. P. A. Agyemang (in-law of the media tycoon, Rupert Murdoch) was banned by a court ruling on moot grounds.

9. *Ghanaian Times*, Tuesday August 26, 1997, front page.

10. *Ghana: Progress on Adjustment*, Restricted circulation report no. 9475GH, April 16 (Washington, D.C.: World Bank, 1993), p. 53.

11. "Infocus" advertising supplement on Ghana, *New York Times* Sunday edition, April 1999 p. 10.

12. *World Bank Development Report: Development and the Environment* (Washington, D.C.: The World Bank, 1992), pp. 104, 142.

13. *Ghana: 2000 and Beyond*, African Regional Office, West African Department (Washington, D.C.: The World Bank, 1993), February, pp. 18, 21, 22. *Higher Education: The Lessons of Experience* (Washington, D.C.: The World Bank, 1994), quoted by F.A. Bekoe, "The Flight from Science," Presidential address to the Ghana Academy of Arts and Sciences (Accra: 21 November, 1994).

CHAPTER I

CULTURE: THE HUMAN FACTOR IN AFRICAN DEVELOPMENT

KOFI ANYIDOHO

The principal and recurrent failure of development planning in Africa lies in its lack of organic relationship with our cultural heritage. There is a sad joke about why the faculties of agriculture in our universities do not seem to be doing well in their attempts at solving our chronic problems or recurrent food shortages. It is alleged that within the same faculty, the crop scientists pursue elaborate and often expensive projects aimed at pest control, but because they neglect to compare notes with the soil scientist, after some two pest-free and reasonably good harvests, the soil is rendered useless by the otherwise wonderful pesticides. Hopefully, there is a clear exaggeration here for dramatic effect. But too often it is the case that our policy planners and the executing agencies are guilty of such lack of coordination. Instead of integrated planning, what we see is a planning for development in which agriculture is the center of all our concerns, with culture being treated as a footnote — if indeed it ever receives attention.

In an important FESTAC Colloquium lecture titled "Culture, Education and Development in Africa," Professor J. Ki-Zerbo reminds us that "every authentic culture has the tang of the soil. In [its] beginning every culture is more or less based on agriculture. . . . In the Africa of old, land was almost always at once landed property, object of social appropriation and an entity linked with the gods" (1977:105). We must, in fact, reverse Ki-Zerbo's argument and insist that every authentic agriculture is or should be based on culture. It is within this context that we can fully appreciate the fact that within our cultural heritage, the calendar of events that may begin with propitiatory rites in honor of the Earth Goddess and move into the successive periods of clearing the soil, planting, making sacrifices to the rain god, observing "the Week of Peace, gathering the harvest home and finally celebrating the rice or yam festival" (Achebe 1958) all these constitute an organic approach to development planning. In the final section of this paper, we shall see how an imported 'hi-tech' agricultural project was once imposed upon a particular community with arrogant disregard for the community's total way of life, how that community still suffers severe disruptions introduced by this alleged 'development project'.

We may also take note of the organic link between health and our arts and culture. As pointed out by one of our cultural experts:

[A] nation, after it is well fed, must learn how to relax. The beer bar is our national theatre where we drink till the wee hours of the morning. As a result, we are rapidly becoming a nation of incipient alcoholics. The tragedy is that we have no well nourished bodies to carry the burden of eternal drunkenness. So our workers and rural people kill themselves on bad liquor. Leisure cannot be the preserve of only the rulers. (Awoonor 1972:20).

The query here points to the lack of provision for healthy ways of relaxation. It is rare to find in our development projects any considerations for leisure facilities. Indeed, hardly any of our modern housing projects feature so much as a little space for even a children's playground and we are shocked to find our children in the city trying to play soccer in the street. Yet, it is common knowledge that every little African village allows space for leisure activities by both

children and adults. The traditional 'village square' is a cultural institution often overlooked by so-called modern town planners.

It is crucial that we be clear in our minds about what culture really means. Perhaps our sad attitude to issues of culture is partly a result of our lack of a full understanding of the term:

Even today our Ministers of Culture, with very few exceptions, are finding it hard to demonstrate the fact that African culture is not the artificial flower which adorns our hat, but the very blood which flows in our veins. Our Ministers of Education work relentlessly towards the promotion of the quantitative and qualitative elements of the structures that come under their departments. Our Ministers of Economy go on harping on the imperative need for 'modernization'. Our Heads of State often consider culture as that additional element that is added to the budget when the latter is more or less in balanced. (Ki-Zerbo 1977:105)

CULTURE AS FESTIVAL

A direct consequence of this lack of understanding of culture as an integral or organic part of all our programs of education and development, may be seen clearly in what we can describe as the festival approach to cultural programming. The festival approach has many good sides to it, but we must not lose sight of its hidden dangers. The festival approach tends to isolate culture from the mainstream of educational and development programs; it removes culture from the curriculum or essential programs of development and treats it as an extra-curricular and extra-budgetary activity. Something you do, but only when you have finished your main program. You pay attention to it only when you have the time and, above all, the resources to spare.

But it is a mistake to treat culture this way and the mistake takes on serious, even tragic dimensions when culture for too many of us means little more than drumming and dancing. There is a great deal more about culture that we do not seem to understand or fully appreciate. Our culture is certainly there in our music, our dance, our handicraft. But that cannot be all there is. Our culture must be there in all the books we give our children and youth to read; it must be there in all our language education, our science and mathematics, as well as agricultural education and it certainly must be there in our religious education.

Each time I look back on my early education, I cannot help but conclude that I did not get far with the fundamentals of 'Arithmetic' largely because Teacher Kamassah and Teacher Aklobotu, urged on by Simon and Milikin,¹ tried too hard to make me grasp fundamental mathematical formulas and principles by sorting out the number of runs and innings in a game I had never played, had never seen played. They were too determined to make me calculate the time it would take for Train A, traveling at 120 mph or some such 'impossible speed', to overtake Train B, travelling at 115 mph. Perhaps someone should have asked me to calculate the time it would take Akpalu's canoe to overtake Togbi Agama's old canoe with its motto 'Slow But Sure'. My village was nowhere near a railroad but close enough to the Keta Lagoon. I never got to travel by train until some ten years later. And I was never to see a cricket field until some fifteen years later. Even now, each time I chance upon people playing cricket, I quickly turn and run for dear life. The fear of runs and innings pursues me for the rest of my life, all because someone tried to use 'some rich folks' game' to make an arithmetician out of me. And my fear of mathematical figures remains a lifetime obsession.

The festival approach takes culture out of the curriculum, out of the books, out of the classrooms, out of project planning and implementation and puts it on display for only a few days of excitement and jubilation. We must wonder what happens during the rest of the year. We must wonder what our children continue to read or listen to. We must reflect on what religion we believe in and teach our children and practice with them outside the festival period. And in a situation of constant shortage of development capital, probably the greatest argument against the festival approach is the fact that much of the investment goes to profit all kinds of people except the artists or other cultural experts (Armah 1985).

There is, however, an important lesson from our traditional festivals that must not be lost on us. Behind many a one-day or seven-day festival, there is often a whole year of careful and sustained planning and hard work. There can be no Yam Festival unless there are yams to harvest. Clearing the land, finding and planting the seed yams, tending them, even the harvesting, these are all dimensions of the culture without which there can be no agriculture. But clearly they are not festive occasions. The festival is possible and makes sense only because it follows a long period of hard, fruitful labor.

We need to pay such attention to our culture that it can mature to a point where the seeds are carefully chosen, sown early and taken care of on a daily basis. Then and only then may we harvest the full creative potential of our children and our society. Until then, we remain shadows of our true selves, or worse, shadows of other people's images.

THE NATURE OF CULTURE: ITS INTELLECTUAL CONTENT

Of the countless formal definitions of culture that come to us from various sources, there is one by the Latin American Nobel Prize novelist, Gabriel Garcia Marquez, for whom "culture is the totalizing force of creativity, the social utilization of human intelligence." The implications of this definition are many, but we may dwell here on only two dimensions: creativity and intelligence.

First of all, we must focus on the intellectual factor in culture. It seems that we do not give due recognition to all the elements of creativity, especially in our truncated view of culture as the domain of oral, performing and plastic arts. The missing element is often the intellectual-philosophical factor. Perhaps this is not surprising, since we tend to credit our people and their traditional practices with little intelligence or wisdom, largely on account of their not being associated with written record. Indeed, for many of us, illiteracy is almost synonymous with ignorance. Thus our adult literacy campaigns are invariably dedicated to 'the eradication of illiteracy, disease and ignorance,' suggesting an inevitable and organic link between these three deadly sins. Yet, the irony of it all is that it is rather we who approach our people with undue presumption and arrogance. It is rather we who are the ones so deficient in knowledge of the true conditions and motivations of life in our societies. Precisely because of this lack of 'native intelligence' and because much of our presumed learning has no organic relationship with our people's values and aspirations, our so-called development projects — based as they often are on alien values — have yielded such meager social benefits. Individually, many of us have demonstrated remarkable human intelligence. But until we can collectively mobilize and utilize such intelligence for social transformation, we cannot claim to have developed an intellectual culture worth boasting about. In a sad way, what we have so far done is to project our own failures and lack of imagination and understanding on an alleged backwardness of African societies.

The quiet but very determined manner in which our people often reject some of our imported and badly coordinated 'development projects' and various structures of adjustment may indeed be a barrier to sustainable progress. But it could also very well be their only way of maintaining some reasonable balance, however precarious, in a confused and dizzy world.

Our people's traditional approach to socio-cultural problems suggests that they conceive the social collective as they do the individual human being: there is the physical or material essence; there is the mental/emotional or psychological essence; and there is the spiritual essence as well. Just as ailments of the human being may sometimes best be tackled at all three levels, so also may we deal with social ailments.

It will be inaccurate to say that contemporary development neglects matters of the mind and of the spirit. We certainly do attempt to develop body, mind and spirit. The critical error is that there is little or no coordination among the three areas of development. In fact, in some cases, they tend to work against one another. We have, for example, embraced an alien religion that actually assures us that material well-being is an almost insurmountable obstacle to spiritual bliss. And we embrace such teaching against the glaring evidence that the messengers of this doctrine of 'blessed poverty' are themselves invariably so full of material prosperity that they can afford to demonstrate their love by sending us generous gifts of their left over meals and discarded clothing. And when it comes to matters of the intellect, we seem too ready to put our own minds on hold and make our heads ready to receive borrowed or donated ideas.

African leaders are very anxious to defend the integrity of their boundaries and their sovereign rights over mineral reserves. But the minds of Africans remain no-man's lands protected by no boundary and constantly subjected to invasion. But then, do mental values not prepare the ground for values that are assessed in terms of cash? (Ki-Zerbo 1977: 107)

This fundamental lack of appreciation for the intellectual content of African culture may partly explain why our development planners rarely consult with those for whom they claim to be planning. The tendency is to assume that once we can import sufficient foreign technology, our projects should yield expected profits. We never seem to learn anything from the repeated failures of most development projects that look perfect as blueprints but collapse soon after they are initiated. Even for agricultural projects based on imported technology, it is not enough to cite lack of spare parts and technical expertise as the major causes of failure. More than mechanical and technical shortcomings, we must look to the human factor. For a specific and representative case study, we shall consider the case of Wheta versus Imported Development Planning.

THE WHETA PROJECT: AN EXAMPLE

The town of Wheta is located in the Ketu District of Ghana, some two miles away from the Keta Lagoon and two miles off the Accra-Aflao trunk road that runs into Togo. Wheta is a typical farming community, until recently focusing mainly on the production of such staples as corn, cassava, potatoes, tomatoes, palm trees and okra. In the past, sugar cane was an important cash crop. The weaving of Kente, the most important traditional textile of Ghana, was also a major economic activity.

In a significant display of traditional wisdom, the single most fertile stretch of land in the Wheta area was protected from private and individual ownership and could not be claimed by

even the Paramount Chief as ‘Stool Land’. It was available for any citizen to cultivate for as long as possible. But any farmer who left his or her plot fallow for more than a couple of years could lose it to a new user. With its rich, clayey soil and the seasonal flooding from the Kplipka River, this stretch of land was particularly suited to the cultivation of sugar cane and other important staples such as okra and tomatoes. It also supported a culture of fish-farming in fishponds. It was the favorite ground for the hunting of a variety of wild game. It provided *ebe*, the special grass thatch with which most houses were roofed. Most important, it was also the main source of water for the entire population. But ‘national development’ policy soon caught up with Wheta and deprived the people of what was in many ways the very nerve center of their economic life.

In the early 1960s, the Government of Ghana unilaterally took over the entire stretch, without consultation and with no compensation. Indeed, armed police were brought in to be on guard as the almost ready-for-harvest sugar canes were taken down by heavy agricultural machinery. For a few years the area became one of the most successful projects in the nationwide system of State Farms. It specialized in rice cultivation and in poultry farming. The impact of this event is inscribed for us in poetry by a citizen of Wheta, then a teenager whose schooling was hampered by this tragic episode:

Our roof is now a sieve — Atsu
The rains beat us. — Beat us.
Even in our dreams.
And the Gods — they say — are not to blame.
The State Farms have burnt the thatch and dug its roots.
They grow rice. — And cane sugar.
But oh! — Atsu
My Twin Brother — Atsu!
Our bowels are not made for the tasty things of life.
The rice — the sugar — all go to Accra
For people with clean stomach and silver teeth
To eat and expand in their borrowed glory.
(Anyidoho 1984:54)

For the people of Wheta, then, development — especially as it has been planned and implemented from the national level — has not been a pleasant experience. For instance, the single borehole that was dug as an alternative source of water, was not only inadequate for the population; it quickly broke down from lack of maintenance and the people have had to go back to their old source of water. Except that the water is now mostly collected from small canals prepared for rice cultivation and is therefore invariably saturated with chemicals from the crops.

The original State Farms program collapsed many years ago, but the rice cultivation project was revived a few years ago under a technical cooperation agreement with the Chinese and under the management of the Irrigation Development Authority, another central government organization. This time, however, the project land was divided into small holdings and allocated to individual farmers, mostly from the Wheta area, who are expected to cultivate their plots, with the IDA providing technical and some financial support. The farmers in turn must sell their produce and at government-determined prices, to the State Food Distribution Corporation. These farmers used to work this same land in a labor-intensive economy. But rice cultivation is both capital and labor intensive. The result is that, with bad judgement by several farmers not used to

the peculiar demands of this new system of farming, coupled with very poor management by the IDA, most of the farmers have gone bankrupt and have abandoned their plots or have had their plots taken away from them. The jubilation that greeted what was initially seen as a return of the land to the people has been short-lived.

A sadder aspect of this failure is the fact that the new project has greatly disrupted the community's way of life and without offering any meaningful compensation. In order to engage in rice cultivation it was necessary for most people to abandon almost all other primary economic activities, including the cultivation of their traditional food crops. For the last eight weeks or so prior to harvest, a rice field needs to be guarded from sunrise to sundown against invading birds. Often children have to be re-deployed from the classroom and playground to help mother and father keep the birds from harvesting the crop. Even with a reasonably good harvest, the investment often surpasses the income, especially since the pricing is determined by the central government, whose main interest is in 'political stability' rather than fairness in prices of farm produce. And when the harvest fails, the tragedy of the family is often total.

CONCLUSION

It may be argued that a project such as this is bound to fail. Not only does it violate 'cultural protocol' by alienating the land from the people without due regard to custom or even federal laws; in its planning and implementation, the entire community is reduced to the level of objects. At no stage in the planning of the entire project did anyone seek the opinion, let alone the consent, of those who were eventually expected to carry it out. And in the implementation itself all critical decisions, such as the timing of harrowing, sowing, even harvesting, are made by the IDA, not the farmers, presumably because the IDA controls the technical expertise. But the real explanation is that this approach to development assumes ignorance on the part of the community. Theirs is to receive instructions and do what they are told. But it would seem that a people who have cultivated a stretch of land for several centuries, must have developed a body of knowledge about local conditions, even climatic conditions, that should serve as a useful complement to the potential efficiency of imported technology.

What we miss here is a legacy of creativity, firmly rooted in a rich soil of culturally valid orientation. The pattern is a familiar one for other parts of Ghana and, indeed, for Africa and what is now referred to as the developing world. Almost all of these regions are battling with the same legacy of their colonialism. So far, development programs, planned and implemented from the national and international levels have had little impact in releasing the creative potentials of the people. Perhaps the key lies in small-scale projects initiated and directed from the local level and closely monitored by an intimate understanding of the dynamics of culture.

The guiding philosophy here is that for any such program of development to yield the benefits desired by society, we must begin with a proper harnessing of the collective and individual knowledge and spirit of the people. Further, we must understand that the proper development of the collective and individual knowledge and spirit is more a function of a variety of cultural institutions and practices than that of development blueprints produced by distant bureaucrats and technocrats. A people who cannot trace their own footprints from the past are more likely to walk in the shadow of other people's progress than forge their own way into a future over which they can claim a reasonable measure of control and self-determination. In short, the theory that should guide our work is one that views development as the collective fruit of a people's creative endeavor. The emphasis on creativity is crucial if we are to avert the

recurring situation in which one sees development as the product of endless assimilation of ready-made solutions devised by distant people for one's own, if similar, problems of existence. In any case, we are reminded of the fact that no aid, however generous or even technical, is without its own cultural baggage, a baggage that may do more to undermine than it does to help develop the recipient society (Mazrui 1990: 195-207).

Finally, let me turn again to the need for an organic link between agriculture and culture. This is important for our purposes, since agriculture is often the centerpiece of our development projects, while culture is often seen as amusement for the idle and the not-so-serious. Against this background, I would propose the following: Agriculture provides sustenance for the physical and ultimately perishable or mortal body of a people; culture cultivates the mind and nurtures the soul. A people who deploy all their resources into providing food for the physical body only, shall leave nothing but a legacy of skeletons and excrement to their offspring.

NOTES

1. Co-authors of the basic textbook on elementary mathematics used in schools throughout Ghana well into the 1960s.

REFERENCES

- Achebe, Chinua. (1958) *Things Fall Apart*. London: Heinemann.
- Anyidoho, Kofi. (1984) "The Song of a Twin Brother," *Earthchild*. Accra: Woeli, pp.52-56.
- Armah, Ayi Kwei. (1985) "The Festival Syndrome," *West Africa* (15 April).
- Awoonor, Kofi. (1972) *Come Back, Ghana*.
- Ki-Zerbo, Joseph. (1977) "Culture, Education and Development in Africa" *FESTAC Colloquium on Black Civilization and Education Colloquium Proceedings*, vol. 1. Lagos: Center for Black and African Arts and Civilization, pp. 105-113.
- Mazrui, Ali A. (1990) *Cultural Forces in World Politics*. London: James Currey.

CHAPTER II

MODERN TECHNOLOGY, TRADITIONAL MYSTICISM AND ETHICS IN AKAN CULTURE

GEORGE P. HAGAN

INTRODUCTION

This essay is intended to demonstrate that traditional mystical and moral beliefs have continued to exercise a strong hold in some African cultures because such beliefs present a unified and totalizing concept of the world. In this unified picture, technology does not stand by itself but is a part of a world perceived as at once physical, mystical and ethical. Such a world-view co-opts and appropriates new phenomena and entities into its explanatory framework and equips people to find responses to the questions and perplexities of life that modern science and technology have greatly aggravated and yet appear incapable of answering.¹

Technologies are cultural constructs. A people's technology is primarily a body of knowledge accumulated over time, concerning the practical means and techniques for exploring, manipulating and utilizing nature for the benefit of human life. Since what nature is, or is conceived to be, is embedded in a people's world-view, technology is basically enveloped in the variety of beliefs that a people hold about the nature of the universe. Radical transformations of a people's dominant beliefs and perceptions of the universe thus often lead to the quest for new technologies. Creating these new technologies in turn aids them in exploring answers to new questions that have arisen in the new discourse made possible by new metaphors and conceptual constructs.² Conversely, new technological devices also enable a people to enlarge their experience of nature and thus to question and examine old assumptions and constructs and to seek new metaphors or idioms of discourse to account for their enlarged perception of nature.

The classic case of the radical impact of technology on an established world-view is that of Galileo, who used the simple telescope to challenge the then prevalent belief that the earth was the center of the universe.³ Through his telescope, Galileo made observations that convinced him that the world was a small body which, like many others, moved around the sun. "It moves," he proclaimed, and this postulate challenged the validity of the medieval cosmology and eventually overthrew the centrality of religious dogma in the human quest to understand the universe and the physical laws that regulate it.

In the contemporary world, modern technology has come to represent the means by which a people seek to transform their culture and advance to modernity. Such is the transforming power of technology that there is an unquestioned assumption in the Western world that the acceptance and incorporation of modern technological devices and gadgets into an African culture should not only overhaul and change the traditional culture in very significant material terms, but should also radically undermine traditional beliefs and ethical outlooks. The basis of this view is that scientific tools not only bring with them servicing skills and new knowledge; their location, ownership and use often lead as well to a new distribution of productive capacities, wealth and power. Technology introduces new social relationships that subvert old and revered institutions. In time, the influence of these tools subverts the established power structures and erodes the sanctions that ensure conformity to traditional norms and modes of behavior. In the vortex of technological transformation of traditional societies, the sacred values and norms themselves cannot resist corrosion.

So a question arises at the radical center of development discourse, that is: why do mystical beliefs and traditional values persist while a people display a penchant for acquiring and utilizing modern scientific gadgets and devices? For someone asking this question, there may appear to be a transparent conflict between the technologically-driven material culture of today, on the one hand, and African ideals and values, on the other. This conflict should be obvious to the African mind. Indeed, there is abundant evidence all around that African beliefs tend to place restrictions on the use of machines and on the use of space and time and generally tend to obstruct the economic exploitation of natural resources to which Africans attribute mystical powers. Mystical beliefs circumscribe the utility of technologies in agricultural production, in medicine and in human reproduction and influence the practical critical choices that people make. Suppose machines are required to operate in a cultural milieu wherein not only space and time, but also the nature and interactions between animate and inanimate things, are defined in the light of ontological and moral assumptions that obstruct the people's capacity to advance the material quality of their lives. Then, it might be argued, a serious developmental problem confronts Africa.

In this essay, the main thrust of my exposition is to show that in Akan culture modern scientific technology and technological artifacts are not only incorporated into the material culture of the community, they are co-opted also into African cosmologies and into a different realm of discourse. Technology is thereby understood in terms of indigenous categories of thought. To convey this, I demonstrate that on the one hand, traditional discourse converges with modern discourse in the mode of perceiving physical nature, thus making it possible for Africans to accept scientific ideas. Yet, on the other hand, traditionalist discourse remains distinctive because it contains postulates that enable the community to find responses to questions about the individuality or uniqueness of events and personal subjective experiences. And further, but no less importantly, traditionalist discourse provides means for defining the moral implications or practical consequences of these new events and experiences. It provides expression for issues that appear to have no place in modern scientific discourse.⁴

To give a sense of the incorporation of modern technology into traditional African culture, this chapter first attempts to profile Akan technological domain by indicating the traditional Akan mode of treating tools and artifacts. It then proceeds to demonstrate the elements of convergence between Akan traditional discourse and modern scientific technological discourse by indicating proverbs that state empirical laws of nature. Finally, it shows the domain in which traditional discourse diverges from modern scientific discourse by uncovering the postulates by which the universe is constructed as an ethical and individuating system.

From the first step in the making of an object or a tool through to its use or application, Akan people perceive a human being as involved in a process of giving existence to something that would occupy a place in the world, enter into and impinge upon human life and upon group interactions, as well as upon the relationships and interactions between non-human entities. Akans therefore treat the new entity as an extension of human existence; and they regard the power of the tool as an extension and an enhancement of the manipulative capability of the human being. In the making of an artifact or a tool, the Akan also perceives a process by which an individual transforms a medium or a natural object and endows it with properties and capacities that are appropriate for serving some specific human purpose or need. In this sense, the object is taken as endowed with inherent value and forms part of the ethical framework of community life. As in most cultures, the alienation of the object from its creator without replacement or compensation is deemed ethically wrong; and in the olden days, the fear of the

ritual consequences of possessing someone else's spiritual essence was sufficient to protect that object from being stolen.⁵

Again, in creating a tool or an artifact, a person harnesses power or vital energy derived from the medium, on one hand, and from the manufacturer, on the other. The interaction between the material medium and the human entity is a dialectical process in which the opposite forces are in constant interaction. As in many other cultures, a creative process is a liminal one of being and becoming and a mystical aura surrounds it. Every creative process is thus hedged about with taboos and ritual observances. In many cases, one has to purify oneself of sexual pollution and one is forbidden to interact or even to have sight of a member of the opposite sex. In some cases, the maker of a piece of artifact or a tool has to remain silent throughout the process. Such observances apply to activities extending from the preparation of food to the manufacture of a boat or to the building of a house.⁶

A tool or an artifact is not only born out of a conflict of opposites. In use, the device is also constantly under the control of opposites and its manipulation is fraught with danger: it can malfunction and cause serious injury to life and limb. The use of a tool is therefore also surrounded with do's and don'ts. Because of this, tools and artifacts also require being constantly purified and re-energized or infused with more power and enhanced vitality. Therefore on festive occasions, buildings, boats, hoes and cutlasses, mortars and pestles, drums, drumsticks, hides and the entire tool kit of an Akan community will be cleansed and sprinkled with ritual food. In the context of this ideology, technological knowledge and skill are regarded as largely a spiritual or mysterious endowment. Such is the complex tissue of beliefs, attitudes and prescriptive behavior into which Akans and other Africans have incorporated Western technology.

In popular Ghanaian discourse, the gun — one of the earliest foreign devices introduced into African cultures — can, in the scheme of things, be rendered quite harmless by rituals which either reduce its dangerous potency or render human beings immune to gunshots. The camera has a mysterious power of capturing the shadow or the spirit of a person. The images that appear on the film are called ghosts; film negatives and photographic pictures of individual persons can be used to do injury to them. The aircraft — whatever the explanation of what makes it fly — reflects the power of European witchcraft. The African witch uses the same kind of power to defy gravity only to fly at night to do harm to others. Electricity is identified with the phenomenon of lightning, which in many cultures is a phenomenon associated with the Thunder god. Electronics seem to confirm the age-old African belief that entities can transmit vibrations at a distance; and thus witchcraft and sorcery are said to employ African electronics. The ubiquitous motor vehicle is fraught with danger and must be ritually cleansed when it carries a corpse. A driver who hires out his vehicle to carry a dead body must make it safe by purifying it; and he must therefore be given a bottle of gin to perform the rite of cleansing. And the catalogue goes on. All this seems to make a lot of sense to one who believes in the postulates of the African world-view. And this raises the question of whether an African does not or cannot accept the physical explanations offered for the workings of modern technological devices.

In the following, I intend to show that traditionally educated Akans understand nature in physical terms, but translate events into a different domain and use a different discourse to explain the spiritual and moral implications of events.

Levels of Discourse

In one of the most controversial and, for that matter, better known essays on the differences between traditional and modern thought, Robin Horton posited the following. Traditional thought and modern thought appear to be similar in the metaphors or paradigms that they use to describe nature at the level of perceptible reality, the level of ‘primary’ discourse. But they differ significantly in the paradigms used by each to speak of abstractions at the level of ‘secondary’ discourse.⁷ To explain the difference, Horton postulated that while modern scientific discourse uses metaphors or models derived from the observation of physical nature to represent abstractions, traditional thought derives its images and models from social systems and institutions. For according to Horton, it is in social systems and institutions that traditional thinkers observe the utmost regularities in life. Nature alone gives indications of chaos or of events which evince no regularities. With social paradigms, he went on, traditionalist thought inclines to give entities the attributes of human beings and speaks of events in terms of their intentionality or moral implications and consequences. If Horton is correct, then in any corpus of traditional knowledge we should not expect to find any abstract principles about the relationships and interactions of entities in nature couched in the idiom of natural images or metaphors. And so one way of verifying his thesis will be to scour for contrary evidence collections of proverbs that express principles of traditionalist thought.

In the corpus of Akan proverbs, one can identify statements of collective experience that capture in lawlike form perceived regularities in the interactions and relations between natural entities and events. Far from positing only human interactions as paradigms to be applied to non-human interactions, the proverbs also instance natural interactions and sequences employed as paradigms to be applied to societal and interpersonal relationships — although in their literal sense, these proverbs are primarily generalizations about nature that are meant to enhance comprehension of the physical world.⁸ In this regard, a study of Akan proverbs reveals one very serious shortfall in Horton’s thesis. Akan proverbs give us images of human/human relationships, human/non-human relationships and non-human/non-human relationships. His failure to recognize this fact about proverbial discourse throughout African cultures skewed Horton’s comprehension of the nature of traditionalist thought.

The corpus of Akan idioms exhibits unambiguously that Akan thinkers have always considered the metaphors or images of physical, non-human interactions and relationships as being more applicable to nature as a whole than are the metaphors or images of human interactions and relations. It might be argued that the representation of social facts using natural symbols or images offers a greater potential for more objectively detached reflective thinking about issues. Further, use of natural imagery also helps to concentrate the mind on a provocative topic without the emotions getting involved. For example, to make a statement about social conflict, Akans use the traditional motif of a Siamese twin crocodile with two separate heads and a common stomach. And the motif says: ‘Though they have one stomach they fight when they eat.’ This makes it clear that even as human beings seek to satisfy a common objective, they will fight.

By avoiding reference to human twins, tradition not only observes the taboo against creating images of abominable malformations, but also avoids the suggestion that human beings would necessarily fight, or indeed that they must fight while pursuing common ends.⁹ Nonetheless, this is the kind of moral compulsion that is evident in the motif of three heads which says: ‘One head does not go into council’ — meaning that one head must not go into council. This speaks directly to decision makers. To affirm the need to maintain and respect the integrity of each individual, another Akan symbol uses the motif of three fishes, each with the tail of another in its mouth.

And the motif says, 'No one bites another.' In other words if fish would not, why should human beings?

Contrary, therefore, to a claim recently made by Kwame Gyekye in his essay, "Technology and Culture in a Developing Country," it is to me evident that proverbial statements derived from observed particularities of flora and fauna produced secondary abstractions that even at the highest level have steered clear of the mystical.¹⁰ The following are examples of nature-derived metaphors or paradigms that are encapsulated in proverbs. These illustrations reveal a greater similarity between scientific and traditional thought at the level of secondary discourse than Horton would have led us to believe. Indeed, certain proverbs state some of the basic laws of statics and dynamics on which basic technology everywhere must rest.¹¹

(1) *Nsu bi kobo nsu bi mu a, nna nano adwo.*

[When one water-body collides with another water-body its strength subsides].

When two forces oppose each other, they become weaker. This speaks about the confrontation between two strong personalities or social forces.

(2) *Se wotwe ahama na emma a, na biribi kura mu.*

[When you pull a rope and it does not yield, then there is something holding it.]

Literally, this means that when a force is exerted on any object and no movement occurs, then there must be a counterforce to it, or there must be something resisting the movement. This uses the image of human/non-human interactions to depict natural and political dynamics.

(3) *Dua wui ntwer dua wui.*

[A weak piece of wood does not recline against another weak.]

(4) *Sor adze ye dur.*

[A high object has weight.]

This refers to the power of elevated things and persons.

(5) *Anoma wu a ne nteker a gu fam.*

[When a bird dies, its feathers fall to the ground.]

[The lone tree that confronts the storm breaks.]

When one person faces a problem, he collapses.

(7) *Biribi ankoka papa a anka papa anye krede.*

[Had nothing touched the reed, the reed would not have rattled.]

Nothing occurs without a cause. There is no event without a cause.

I bring these proverbs up to demonstrate that a people with a traditionalist world-view can think in abstractions and can postulate laws of nature couched in images taken from nature. With such an understanding of the workings of nature, such a people may be equipped to understand the idiom of modern scientific and technological explanation in terms of their own paradigms. The proverbs suggest:

(i) that traditional thought derived many explanatory principles from a very keen observation of nature;

(ii) that proverbs using images derived from nature successfully posit universal facts of nature and universalize the relationships and interactions between entities in the physical world;

- (iii) that traditional thought posited the law of causation and directed the mind to look for causes for every occurrence;
- (iv) that such maxims indicate that nature could be understood on its own terms; and
- (v) that some of the proverbs cited here are analogs of Newtonian principles of statics and classical dynamics.

Now, it should not be surprising that traditional thought formulated laws of nature. For, of course, without that, nature could neither be understood, approached nor utilized; and life as we know it would not be livable. In this connection, Horton claimed that traditional thought regards social relationships as more regular and rule-bound, tending more toward regularity and rule-boundedness than does nature itself. But then it could be argued that social systems and institutions may enjoy regularity and predictability only because the traditional mind sees nature (on which community survival and activities depend) as predictable and as likewise informed with regular recurrent patterns. The much noted cyclicity of traditional African reckoning of time, the regularity of ritual cycles and the cyclicity of planting and harvesting, all indeed rested on the experience of regularity. Periodicity and predictability of the rhythms of natural events are readily apparent in movements of the sun and the moon and in the succession of wet and dry seasons — although there always remained an element of uncertainty about these seasonal weather patterns.

On the basis of collective experience, the store of traditional knowledge and the understanding of nature, it is quite evident that some of the scientific principles and concepts — the laws of dynamics and statics and the law of gravity — may quite easily be explained through the idiom of some proverbial statement. And from this one might argue that there is a large measure of convergence between traditional and modern thought, not only in the realm of primary discourse but also in the realm of secondary discourse. For in the theorizing and generalizing apparent in both the traditional and the modern systems there occurs an ascent to the level where explanations demand conceptualization that would offer universal empirical rules for predicting natural occurrences.

Power: Non-mystical and Mystical

Scientific technology rests on the assumption that all things are material or physical in nature; on this premise one searches for the causes of all things and occurrences in the realm of the physical. Also, power — the key concept in terms of which the efficiency and operation of machines are explained — is projected as an abstraction and is thought of exclusively in physical terms. In traditional Akan discourse, the existence of technology depends on the assumption that human beings are capable of manipulating physical things and that all things are physical in nature.

Gyekye and others who have identified a difference in discourse at the level of abstractions, have claimed the contrary. They claim that although traditional thought includes a concept of power, the traditional mind perceives power as mystical and thus diverts the explanation of the workings of nature from the search for physical causes to concentrate on the search for mystical causes.¹² It should be evident that if this were true, no Akan could possibly have conceived some of the proverbs cited above. The cultural evidence indicates rather that the concept of power is deployed in a great variety of discourses in several different domains. The concept of power acquires a consistent reference appropriate to each domain, in such a way that a shift of

discourse may be indicated by reference to the sense of power that is being used or to the context in which it is being used.

Thus in the political domain where power is the crucial factor in discourse, Akans speak of power as a commodity for which you must strive. A proverb says, 'If power is put on sale, you should sell your mother and go to purchase it; for with it you can regain freedom for your mother.' And with greater sophistication, Akans express the nature of power by saying, 'power is like an egg: when held too loosely it drops, held too strongly it collapses.' This saying serves as the principle that underpins the democratic culture of traditional governance, emphasizing that power held in one hand is soon lost. Yet it is more interesting to see how the concept of power is projected in the saying, not in terms of some mystical notion or idiom (although political authority is believed to have a mystical dimension), but in the image of a common natural object. Such imagery indicates that power is a concept primarily abstracted from nature and applicable to nature. The image of the egg in political discourse suggests the fragility of power; but in a primary sense the simile more obviously refers to the potential of the egg to transform and bring into being the chicken. An egg is a chicken *in potentia*. And this, I suggest, is the paradigm that defines power, not only in the political and legal contexts, but also in the ritual context.¹³ As I see it, the versatility of the concept of power is what enables the Akan to bring all the major domains of discourse into one unified whole. This will become evident as we examine some of the basic postulates with which Akan thought defines the different realms of discourse.

ASCENT TO THE DOMAIN OF THE MYSTICAL

In the quest for the comprehension of nature, scientific theories as well as traditional belief systems have to confront empirical uncertainties; the fact is that some events seem to occur by accident or contrary to the assumed laws of nature. Nonetheless, human beings seek explanations for such events in order to comprehend them. I want to suggest that it is the inevitability of such uncertainties, together with the fact that the assumed physical laws of nature cannot serve to predict all events in human experience, that creates the intellectual urge to seek higher abstractions and postulates. Though they spring from perceptible experiences, such postulates cannot be submitted to standard empirical tests for confirmation. However, to satisfy the human mind such postulates have to serve the ends of rational discourse and must obey rules of rationality. In discourse of this kind, explanations attempt to go beyond universal statements about empirical reality or the dynamic relations and interactions between entities in their perceptible physical forms. Instead these explanations are offered in terms of hidden realities and relationships in order to subdue, rationalize and render comprehensible those empirical perceptions that otherwise appear incomprehensibly to contradict accepted facts of life.

In this regard, when adopting modern scientific technological devices and inventions, Africans incorporate them into a cognitive framework in which the modes of rationalizing accidents and uncertainties of nature and human life diverge significantly from an exclusively 'physical' conception of entities and relations. This seems to imply that accidents could be understood wholly in 'physical' terms if only human intelligence comprehended all the laws of nature. As indicated, the postulates underlying discourse about the uncertainties and oddities of life ideologically presuppose the unverifiable existence of certain types of entity. These non-evidential abstractions are regarded by the 'scientifically' minded as superstitious, metaphysical nonsense. However, for the traditionalist the realm of superstition is clearly another realm of

rational discourse, from which issue principles and values to guide human conduct and responses when individuals encounter uncertainties in their personal lives.

Defining the Domain of the Mystical

In Akan culture the distinction between different realms of discourse emerges by reference to three elements:

1. The basic postulates concerning the nature of being or what exists.
2. The basic postulates concerning the nature of space and time.
3. The basic postulates concerning the nature of relations between entities.

Concerning what there is or the nature of existents, Akan ontology reveals a variety of claims, each appropriate for a particular kind of discourse. The claims are:

- (i) All things are *aduru*.
- (ii) All things have *sunsum*.
- (iii) Every thing is a *bosom*.
- (iv) All things have *tumi*.

Recall Horton's claim that traditional cultures do not possess alternative discourses; for they would need to postulate different existents on the basis of divergent perceptions of reality and this, in his view, is clearly impossible in traditional discourse.¹⁴ Yet on the contrary, here we seem to have located statements in Akan proverbial discourse which demonstrably postulate different types of entity. Proof that the entities are different in type is that the terms *aduru*, *sunsum*, *bosom* and *tumi* are not mutually substitutable in statements (i)-(iv) without very radical changes in meaning, or even without sounding nonsensical. In the case of *sunsum* and *tumi*, the notions are interchangeable in certain contexts: In common Akan parlance, people say of things having power that they contain *sunsum*. Yet one can say *sunsum* has *tumi* (*sunsum wo tumun*); but one cannot say *tumi* has *sunsum* (*tumi wo sunsum*). *Tumi* seems to stand at a level of abstraction above *aduro*, *sunsum* and *bosom*. In Akan discourse it is correct to say '*aduro wo tumi*' [medicine has power]; *Sunsum wo tumi* [sunsum has power]; and *Bosom wo tumi* [*Bosom* has power]. None of these claims would be tautological or self-contradictory. What needs to be demonstrated now is that if these terms refer to different types of entity as I am urging here, then they do indeed provide a basis for distinguishing different types of discourse or distinct applications of discourse.

The postulate that 'everything is *aduru*' provides a premise for perceiving and treating everything in nature as exploitable for human physical survival. Thus in traditional medicine, many kinds of animal, plant and mineral substances are seen as efficacious for treating a wide variety of diseases. The assertion 'everything is *aduru*' does not appear to be about anything other than the physical and natural attributes of existing things. As to what makes something efficacious in healing, the traditional response is that every entity or existent has a particular *tumi* or power that makes it specifically effective against a particular malady.

The postulate that 'everything has a *sunsum*' is embraced in conjunction with the belief that in the world there are entities that are both *sunsum* and also invisible — as well as entities that are not wholly *sunsum*, but bear *sunsum* as an aspect of their nature. In this respect, both visible

and invisible entities are treated as being endowed with a principle of activity that enables all existents to interact in and of themselves. Akans believe that it is the strength of the *sunsum* of individual entities that determines their level of manifest activity. Some *sunsum* are thus spoken of as having greater *tumi* than others have, *tumi* again being the term that emerges in the attempt to explain the nature of things.

The postulate that ‘all things are *abosom*’ introduces to ontological discourse the notion that entities cannot be used or abused without regard to their inherent dignity as existents.¹⁵ Things are divinities (*abosom*) and are to be respected in their dignity as existents. Asserting an entity to be *bosom* immediately compels respect and fear. A *bosom* can react and harm us if we misuse or abuse it. And therefore, by implication, activities and things that are disagreeable to the nature and the dignity of an entity become for society an important consideration in rationally determining moral choices and human conduct. To give an example, I was once told that the female genitalia is a *bosom* and that a woman can invoke it to injure a man, if after making love with a woman the man makes derogatory remarks about her sexual organ.¹⁶ It is also for the same reason that a woman cannot abuse her own organ. When a woman experiences protracted labor, it is believed she has been unfaithful to her husband; and many people still believe that a woman in this condition can deliver in safety only by confessing her adultery. The tragic outcome of this is that many women — unable to confess to a sin she would never have committed — dies in labor. Because in an age of sophisticated obstetric technology, the old people keep entreating the woman in labor to confess until it is too late for any doctor to save her.

Note especially that in virtue of the affirmation that all things are gods, people do not wantonly destroy plants and animals, or even inanimate things. And this gives Akan people a strong sense of moral responsibility about their natural environment and the resources upon which society depends for survival. Indeed, in Akan culture the moral responsibility for destroying certain plants and animals has the same gravity as destroying human life.

Now, as with the postulate that things have *sunsum*, the assertion that they are *bosom* is predicated on the claim that things are essentially endowed with *tumi*. *Tumi* is the ultimate ‘stuff of the universe’; and *Nyame* the Creator is the source of all *tumi*, which therefore can neither be created, destroyed nor exhausted.

SPACE AND TIME

Inevitably when identifying different domains of discourse, space and time are critical to the definition of reality. Thanks to technology, space and time can be taken in bounded units measurable from point to point. Space and time are also divisible into standard units. Thus, while technologized space is evaluated in quantitative terms, space and time are conceived traditionally as unbounded elastic continual. These contrasting notions of space and time tend to inspire characteristic attitudes toward the use of time and the dynamics of social activity. Technologized time establishes a discipline of time economy in virtue of the fact that computational time imposes a rigid frame of reference for productive activities and programs of action. The contrasting elastic notion of time is expressed in the proverbial claim, ‘The dawn of the day is not in the hands of one person.’ Time is a fact of collective perception and determination.

In differentiating concepts of time, I consider as untenable the claim of Mbiti and others that traditionalists consider time as cyclical while technological time is linear.¹⁷ The error of this view lies in the suggestion that if Africans see time as cyclical, this must imply that they do not

have a concept of linear time to call their ‘own’. Indeed they do. Many cultures internationally and trans-historically assert that ‘time is like a river or a stream.’ In Akan, the term for this is *nsusansu* — literally ‘water following water’. And a stream combines the characteristics of both linear and cyclical movements, going forward linearly through natural cycles of day and night, cycles of lunar faces and cycles of wet and dry seasons. This traditional concept of time is perceived in growth which is monotonic, yet occurs in cycles by the seasonal ebb and flow of vitality.¹⁸ Like the ancient Greeks, many traditional cultures regard the cycles of time to be marked by the conflict of opposites — light and darkness, dryness and wetness — in a perpetual struggle for dominance.

Further, in sharp contrast with technological space and time, traditionalist thought posits that space and time have a moral quality. Thus space and time are described as either sacred or profane, good or evil. This dichotomy informs events and entities that occur in particular locations and times; it also determines the use of time and structures individual and collective activities. Space and spatial orientations are defined as sacred or profane and so are days of the week and segments of the day. Certain times and spaces are considered as either propitious or unpropitious for making decisions or initiating ventures. In this respect, Akans make the same distinction as the Greeks in ancient times who distinguished time as *chronos* — that is measurable chronological time or as *kairos* — time considered in terms of its propitiousness for a venture. And this brings us to a consideration of what I call the existential reference to time and space.

Akan and many other ethnic groups identify an event or an entity by the place and time of its incidence. They conceive the possibility of things being alike, but they cannot conceive the possibility of any two events or entities occurring in identical points of space and time. To refer to the uniqueness of events or entities Akans refer to their positions in space and time. According to traditionalist thought, no event or entity occurs in a specific space and time interval accidentally. So in the course of its unfolding history, the spatio-temporal property of an event or entity must be a matter of mystery and of divine origin. This is an issue which — although of great significance philosophically — ostensibly has no place in technological discourse about the intrinsic nature of entities or events. Akans believe that it is the Creator who assigns to each person, thing and event the time and place of its coming into existence; and this serves as a premise for the doctrine of fate or predestination which exerts so much influence on Akan decisions and activities. It is the basis for the system of Akan day-names and associated beliefs, as well as the basis for principles of moral responsibility. An Akan proverb says: ‘It is because of evil that God gives each person a specific name.’ However, when a people believe in fate, their ethics are often colored by the propensity to explain many situations with reference to fate — evoked as an escape from the realm of personal causal and moral responsibility into the securely irreproachable realms of mysticism.¹⁹

Relations between Entities

Finally, once a people believe that positions in time and space are divinely ordained, they must also accept that relations in space and time are given. Similarly, causal relations postulated in the physical world by the evidence of the spatial and temporal propinquity between events or entities are likewise taken as ordained. In explaining the particularity of nonrepeatable events — which again science is not constructed to do — Akans reject the notion of accident. They regard what science would call accidental coincidences as fated or linked by hidden necessary

conceptions and causes.²⁰ Techniques of oracular consultation are the means employed to detect such hidden causes. And in many cultures these techniques have their principles or rules of procedure that make them veridical.

This is the logic of mystical beliefs. And this logical framework does not bear solely upon the way people perceive empirical reality or the way they compose the primary discourse of perceptual experience. It also affects how people prioritize the value they attribute to things in the physical world and how they find meaning in their individual and collective pursuits.

CONCLUSION

This essay demonstrates how a traditionalist culture has embraced Western technology and incorporated it into its world-view. Akan culture has adopted the products of Western technology both into the way of life as well as the mode of thought of the people. I have attempted to show that, although this cultural co-optation lends to technical devices and ideas a mystical flavor, we need to recognize the realm of discourse in which this occurs; for indeed, Akan discourse has different levels and domains.

I have attempted to show the nature of primary discourse and secondary discourse in the domain of the physical. And I have distinguished the domain of mystical or metaphysical discourse by indicating different postulates about existence, space-time and relationships. I have attempted to show particularly how the shift from second level experiential or physical discourse to mystical discourse occurs.

Clearly, in Akan culture we find abstract principles about nature couched in proverbial idioms that state more or less the ideas we find in the laws of classical mechanics. This enables Akans to resolve the urgency to understand nature in its own terms. However, in experiences of accidents and incidents that seem inexplicable, unpredictable and unexpected anomalies of nature, people confront the problem countenancing that which appears to contradict known laws of nature. The paradoxes of human experience, real and apparent, lead to the ascent to more abstract levels of discourse — involving reference to higher or non-physical orders of existence — to resolve experiential paradoxes.

In effect, traditionalist ideas about the mystical derive from provocative experiences of physical nature. They are postulated as affording useful insights in the service of making odd, subjective, unique or collective experiences meaningful and to help people respond to them.

NOTES

1. Modern technology and way of life have created more anxieties in many communities, and many people attempt to understand and react to their conditions by appealing to witchcraft, sorcery and fate-concepts; this often allows them to deflect blame from themselves.

2. Though Darwinian evolutionary theory appeared at first to subvert the Biblical theory of creation, belief in the latter still persists. Indeed, many believers now accept the two accounts of how man came to be on this planet. This is an enigma. As the two doctrines cannot both be true, we are drawn to the conclusion that they must be true in different senses and offer us distinct kinds of insight or knowledge.

3. Galileo's fight against the Church in the Middle Ages was to lead to the general conviction that the evidence of the senses must be the foundation of explanations of physical reality. No longer would appeal to the word of God be a safe premise for asserting anything

about physical reality. In many African cultures there is a strong emphasis on sense perception as the basis of true assertions and certainty. The Ga of Ghana say: 'My eyes are my god (own)'. What corresponds to the authority of the Bible is the force of tradition, and this proves difficult to overthrow.

4. The absorption of modern devices into the African traditionalist world-view may appear from a certain perspective to reflect "the alleged intense religiosity of the cultures," as a result of which "causality was generally understood in terms of spirit, of mystical power." See Kwame Gyekye, "Technology and Culture in a Developing Country," in *Philosophy and Technology*, Roger Fellows (ed.), Royal Institute of Philosophy Supplement: 38, pp.123 ff. Here I attempt to explain the basis of this co-optation as systematic and rational: Africans know about physical causation; however, physical events often have personal, spiritual and social effects. Such effects are linked to social causes, the roots of which are in the human mind, especially in the emotions of envy, hate and jealousy. And these are seen as attributes of the human or individual spirit.

5. In a fascinating essay that throws light on material objects as social products, Ray Ellen quotes Karl Marx as saying, "Productions of the human brain appear as independent beings endowed with life, and entering into relations both with one another and the human race." See Ray Ellen (1988) "Fetishism" in *MAN Journal of the Royal Anthropological Institute* 23 no.2, June, p. 216. Ellen asserts that all cultures make fetishes of the objects human beings create; *ibid.*, p.219.

6. Traditionally an Akan woman in her menses cannot cook. To protect it from the evil eye, a pot of palm soup had a ginger of red pepper and a piece of charcoal put into it.

7. Robin Horton, (1967) "African Traditional Thought and Western Science," *Africa* 37 1,B2. The postulates have been reformulated and not abandoned. See "Tradition and Modernity Persisted," in *Patterns of Thought in Africa and the West*, pp. 311 ff., especially p. 327. I go back to his original article because its errors, though apparently corrected, still seem a good starting point.

8. R. S. Rattery, (1914) *Ashanti Proverbs* (Oxford: Clarendon Press), gives a broad classification of Akan proverbs. This enables the author to observe that some proverb-makers were naturalists.

9. The enigma of twinship emerges in higher abstraction in the Akan saying, *Ppap ne bone ye ntaa, ehyee nda ntamu, na nso wonsace*. [God and Evil are twins: there is no dividing them; but they are incompatible]. Kofi Antoban, (1963) *Ghana's Heritage of Culture*, Reipeig, Korhler and Ameking.

10. It needs to be emphasized that the importance of religion in traditional African cultures never did obstruct rational abstractions and speculations nor did it lead thinkers "to give up, but too soon, on the search for phenomena or events, and resort to supernatural causation" as asserted by Gyekye, p. 123. Physical causes and effects were known; so that not all events were referred to mystical causality, as E.E. Roams Prichard observed in his study of Azande witchcraft.

11. A people without some knowledge of the basic regularities of nature would find it difficult to develop any form of technology, however simple. In many of these proverbs, we see the use of some basic physical concepts for the observation and comprehension of nature: weight or mass, force or power, movement and resistance to movement, space, and time. Akan proverbs on the concepts of power, space and time show how far speculation went to attempt to define these basic concepts without capitulating to mysticism.

12. Kwame Gyekye, *ibid.*, p.123.

13. What is common to power, whether profane or sacred, is that it represents a capacity to do things and to bring about a transformation.

14. Horton reconstructs this claim in later essays.

15. See Kwame Gyekye, *op.cit.*, p. 124, where he alludes to "the belief that natural objects contained mystical powers to be feared or kept at bay or when convenient, to be exploited for man's immediate material benefit." Material properties were exploited by material processes, and spiritual properties by spiritual processes.

16. I obtained the assertion and explanation of the mystical power of the vagina from a rural folk. See G.P. Hagan (1964) "Aspects of Akan Philosophy," unpublished MA thesis, Institute of African Studies. Roy Allen, *ibid.*, p. 218 claims that there are three scholar traditions which employ a concept of fetishism, and these relate respectively to three principle spheres of human activity; religion, economy and sex. And he characterizes these as Anthropological, Marxist and Psychological. Traditional cultures attribute physical power to the penis; but the female organ was seen as charged with great mystical power — creative and destructive. In many cultures the bearing power of the female was closely bound up with religions rituals and observances.

17. John S. Mbiti's claim (cf. *African Religion and Philosophy*), "for Africans time moves backward rather forward" has been accepted by many. However this cannot bear close scrutiny. Along with other counter-evidence, many Akan proverbs refer to Daakye — the indeterminable future.

18. In Dahomian cosmology the world is circled by a snake. The snake stands for sinuous movement. The snake moves in cycles and also linearly forward; cf. Herskovits, *Dahomey, An African West African Kingdom*, II, p. 248. Kwame Wiredu, (1980) *Philosophy and African Culture* (Cambridge University Press), pp. 16-17, makes a telling comment on an ethical problem endemic to this metaphysical image: this idea of destiny defines personal attitudes to success and failure — offering to many an excuse to deflect responsibility and to give up on projects prematurely.

19. Willy Abraham, (1962) *The Mind of Africa*, Weidenfeld and Nicholson, makes this clear. See Ch. 1, *passim*.

20. The search for causes is an attempt to make events meaningful. Perceived or assumed causal relationships in turn determine the human mind to give order to physical things and to relationships perceived in their environment in order to avoid harmful configurations.

CHAPTER III

TRADITIONAL GA AND DANGME ATTITUDES TOWARDS CHANGE AND MODERNIZATION

JOSHUA N. KUDADJIE

INTRODUCTION*

We live in a changing world; change is evident all around us. Yet not everyone likes change: change is not easy or comfortable.¹ Some people are even scared of change and new things; others are tickled by it and rush in for every new gadget. Our purpose in this essay is to uncover the attitudes of the Ga and Dangme towards change and modernization as far as can be seen from their proverbs.

The Ga and Dangme people live in the southeastern corner of Ghana in a triangular shaped region along the Atlantic coast. For a long time they were regarded as a twin ethnic group called Ga-Adangme, but at present they function for all practical purposes as two ethnic groups. They form 9 percent of the population of Ghana.²

As in all cultures within Ghana, the proverbs of the Ga and Dangme function somewhat like moral codes, conventional wisdom and explicit rules of conduct; proverbs both describe and prescribe. They state the experiences, moral intuitions and guidelines for living that people generally have found to be noteworthy and helpful. At the same time, they contain the wisdom of the sages in the form of prescriptions and counsel for a successful life. We shall study only a small number of representative proverbs. We intend (i) to distill what Ga and Dangme proverbs actually say about the use of old and new things, about maintaining the status quo, and about accepting change; and (ii) to indicate what resources their proverbs provide — as repositories of the collective wisdom of the people — for forming attitudes towards change and modernization. Thus we shall be stating both what is the case regarding people's attitudes towards change and what ought to be or what they regard as the correct attitudes. The approach adopted here is that of an exposition rather than a critical analysis of the selected proverbs. We shall consider the literal or primary meaning of the proverbs (in English) as well as its deeper meaning and the moral lesson or principle enunciated by their application in a particular circumstance.

Change is inevitable, it is natural, normal and perpetual. Yet the phenomenon of inertia is no less real. There is thus a paradox in the attitudes of various people towards change. The use of new technology and tools as well as the adoption of new values, practices and institutions are all aspects of change and modernization (i.e. the adoption of theories, beliefs and practices characteristic of the late 20th century). This being so, the people's general attitudes to change as such are extended to modernism and new technologies in general — the electronic mail, other high tech equipment, television, *in vitro* fertilization, neo-charismatism, new learning and teaching methods, female ordination, males plaiting their hair and wearing earrings, agitation for gay rights, or whatever.

There is a commonplace view that in societies with relatively more rural populations than urban and city dwellers there is a lower level of tolerance of modernization and that urban and city dwellers accept modernization more easily. Sometimes attitudes to change are intimately linked with religious beliefs. One of the variety of effects that religion can have on adherents is to make them conservative. The more religious a people are, the more conservative they may tend to be and consequently the less favorable may be their attitude towards change, especially

towards 'modernity'. This is because modernity is seen — not entirely without justification — as an iconoclastic and corrupting intrusion upon well-established, age-old values, while it fosters values and practices that tend to incite upheavals and disequilibrium in society.

It is commonly held that standards of education³ (by which is often meant European classroom type of education) determine attitudes towards change and modernization. The more 'education' people have, the more easily they identify with modernity; the less they have, the more negative and suspicious they are of modernity and consequently the more resistant they are to change and modernization. Like all other Ghanaians, the majority of Ga and Dangme people are rural.⁴ Those with European type education are only about 40 percent.⁵ Also, like other Ghanaians, and for that matter Africans overall, they are justifiably dubbed by Mbiti as "incurably" and "notoriously religious." If one takes these three indices seriously (religious adherence, European 'education' and the rural-urban divide), one might conclude without further investigation that the Ga and Dangme are conservative and therefore, at best, indifferent towards modernization — even hostile to it. But one would be mistaken, both on logical and empirical grounds. One would have over-generalized, perhaps under the influence of the "cultural unanimism illusion" to which Hountonji has drawn attention (1983: 152, 165). He argues against the claim that people in certain geographical regions of Africa hold unanimous positions on important metaphysical, moral or aesthetic issues. He denies any such homogeneity, pointing out the truism that there is never any society where everyone agrees with everyone else.

Hountonji's contention cannot be dismissed wholesale. Nevertheless there exists the equally obvious truism that a consensus or dominant view prevails even in a vast culture where people express diverse views at every opportunity. So one can legitimately refer to dominant views of the Ga and Dangme towards modernization and change without necessarily being guilty of the 'cultural unanimism' illusion.

What, then, can we discern from Ga and Dangme proverbs about their attitudes towards change and modernization? Before looking at specific Ga and Dangme proverbs, let us consider some general features of African proverbial discourse of which the Ga and Dangme proverbs form a species.⁶

GENERAL FEATURES OF AFRICAN PROVERBS

Much of the idiomatic language and reflective thought of Africans is expressed in proverbs. In many ways, African traditional proverbs are like those of the people of other cultures. Although there exist long proverbs — which seem more like short stories or poems — the overwhelming majority of African proverbs are short, pithy statements that contain ancient wisdom and experience.

African proverbs usually have two meanings: the literal or primary meaning and the deeper or implicit meaning. The implicit or normative meaning of African proverbs is not always apparent. This is precisely why they are called proverbs. For instance, the Ghanaian Akan, Dangme and Ga expressions for 'to cite a proverb,' *bu abë*, means 'to bend,' 'curve,' or 'to twist words,' to make them complicated (Yankah 1986). Similarly, the Lugbara (Uganda) term that is used to designate proverbs, *e'yo obeza*, literally means 'mixed words,' 'twisted speech' or 'indirect talk' (Dalfovo 1995). The meaning of a proverb is not fixed and so it can be modified. The user is free to reconstruct a proverb in order to make it appropriate for the particular context in which it is being used. To modify a proverb, one may delete, paraphrase, elaborate or transfer

elements in it (Yankah 1986). The hearer must be clever to interpret and grasp the meaning of a proverb.

Another important feature of African proverbs is that for a proverb to be appropriate when cited, the situation depicted in the primary meaning, as well as its deeper meaning, must match that of the context and situation to which it is being applied. Take for instance the Bassa proverb: "An elder knows where to locate a crab's heart." The proverb is pointing to difficult and complex problems whose solution can barely be imagined. They are like a crab's heart, which can hardly be located. Yet in both cases an elder has the solution: from his store of knowledge and experience he can locate a crab's heart. And from his experience and wisdom coupled with patience and careful scrutiny, he can get to the root of a complex problem and offer solutions. This characteristic of the African proverb and its application calls for a technique that comes with long periods of training and practice, whether formal or informal. Similarly, to understand a proverb correctly is also a task calling for discernment; for those who hear the proverbs do not always understand them. This is because the truths and advice expressed in the proverbs are always stated in figures of speech, metaphors and images, rather than in plain common language. Sometimes things that are alike or antithetical are compared or contrasted. One needs to reason and use one's imagination in order to understand a proverb's intended meaning (Dzobo 1972).

Source and Authority

In Africa, proverbs are not usually ascribed to any particular individual, but rather to the ancestors collectively, the wise men and women of old. In most cases it is not known who composed a particular proverb. But whether or not the source is known, all proverbs are credited to the elders of old, even if a particular composer is still alive. In many African societies, when a proverb is cited, it is preceded with a statement like, "So said the elders. . . ." This is a way of according authority to proverbs. It is also a way of saying that all the people own the proverbs (Dzobo 1975); and that they contain experience, wisdom and valid counsel that is acknowledged by all. Thus, the collective thought, beliefs and values of an African people can be discerned from their proverbs.

Scope and Content

There are thousands, perhaps millions, of African proverbs. New ones are still being composed and old ones are adapted or given new meanings to suit new situations. Anyone who is ingenious — that is, anyone who is creative, observant and has the ability to reflect and deduce a moral lesson from common happenings — can compose a proverb (Dzobo 1975).

African proverbs contain observations gathered from common everyday events and experiences concerning the nature, life and behavior of human beings as well as those of animals, birds, plants and other natural objects, even supernatural objects and beings. Some of the proverbial sayings are statements of historical fact about the people, while others contain information about their culture. For instance, the Ewe proverb, "When Nötsie chief sends you to war, you yourself have to find a way of hiding from your enemies," tells of events in their history some 600 years ago when many Ewes lost their lives in wars that they fought for the chief of Nötsie, an ancient walled city situated in present-day Togo (Dzobo 1975). A great number of proverbs express philosophical thoughts, religious beliefs and values. The Akan proverbial saying that "God pounds *fufu* for the one-handed person" is a theological statement of the Akan's

perspective about God's provision, loving kindness and gracious dealings with humankind. Other proverbs reflect the social structure of traditional African societies. For example, there are proverbs that suggest how to deal with elders, children, a spouse and so on; and there are some that indicate the position and role of various members of the society. The Ga proverb: "When a woman rears a goat, it is a man who slaughters it," shows the position and role of the woman in Ga traditional society as a nurturing subordinate, but indispensable companion and partner of the man. Similarly, the Dangme proverb, "The stream-side drinking gourd does not make one die of thirst" (i.e. it saves one from dying of thirst), shows the importance of women in the created order; for it means that a man who has a wife at home will not die of hunger. At a deeper level, it means that a man finds his complement and his fulfillment in woman, his wife.

A close look at African traditional proverbial sayings shows clearly that the main concerns expressed in the proverbs relate to every aspect of human life. The ultimate purpose of the proverbs is to teach wisdom and moral lessons. Thus they contain, and are used to convey, moral lessons and advice on how to live a good and prosperous life. The proverbs touch on all conditions of life: wealth and poverty, health and sickness, joy and sorrow; occupations that include farming, hunting, fishing, building, trading and other kinds of activity like healing, cooking, walking, sleeping, marrying, childbearing, child-rearing. There are proverbs that concern all manner of people: kings and citizens, nobles and slaves, women and men, adults and children, apprentices and master craftsmen.

African proverbs contain observations and good counsel against undesirable vices like anger, backbiting, greed, ingratitude, laziness, lying, pride, procrastination, selfishness, stealing and so forth. The Ugandan proverb, "Anger killed a mother cow," warns against anger, while the South African proverb, "Horns which are put on do not stick properly," condemns hypocrisy and arrogance. Many other proverbs also praise and advise people to cultivate virtues that promote progress and ensure wellbeing: circumspection, co-operation, gratitude, humility, patience, perseverance, prudence, respect and unity. Two Igbo proverbs: "The palm wine tapper does not say everything he sees from the top of the palm tree," and, "If the mouth says the head should be beheaded, when it is beheaded, the mouth follows it," both teach prudence and the need to avoid speaking out carelessly, and to avoid saying everything one sees or knows.

Context and Use

In traditional African society, one can hardly hear anyone speak a few sentences without citing a proverb. For the initiated, the citing of proverbs comes naturally, without any conscious or special effort. This is as true during ordinary conversation as during formal and solemn discourse. However, proverbs tend to be more purposely cited during serious or formal discourse, such as during proceedings of the council of elders, a chief's court, an arbitration, family meetings or during exhortations on how to live a morally good life.

A cursory examination may suggest that some proverbs contradict others. For example some proverbs counsel self-reliance while others counsel community effort. The truth is that, in its own context and particular situation, each may be apt. For in real life situations there are paradoxes and apparent contradictions. For instance in certain situations the best thing to do is to be silent, while in others speaking out is the wise thing to do. Thus, although the counsels of silence and of speaking out may appear to conflict when juxtaposed, in their appropriate distinct contexts each is straightforward. It is no wonder, then, that since proverbs relate to real life situations, they sometimes seem to contradict each other; but these contradictions are only

apparent and not substantive. This fact underscores the need to use proverbs in the right context and appropriate situation.

It is also important to note that one proverb can have several meanings and can, therefore, be applied to different situations. For instance, the Ga proverb, "If you want to send a message to God, tell it to the wind," can be used in different situations. It teaches that God is everywhere. It also teaches the correct Ga procedure when you want to see the chief (you must first see the linguist). And it advises that when you have a bothersome matter about which you cannot speak out, you have to tell it to those who can pass it on.

On the other hand, in some cases many different proverbs teach the same moral lesson and can thus be used for emphasis. The Gas say: "A kitchen that leaks (or a shed in ruins) is better than a thicket." The Ewe have a proverb that says that: "Even a good-for-nothing fellow can carry a pot of palm wine to the funeral." The Dangme say: "Mud-water also can be used to quench fire." All these proverbs teach the same moral lesson, namely, that every person is of some use; therefore everyone should be given due regard and people should have a sense of their own worth and be contented with their role.

African proverbs can be used for several scholarly purposes. They can be used for the linguistic analysis of a particular language or dialect. Historical information as well as the thought, customs, beliefs and values of a society can be obtained through their proverbs. Besides, African proverbs are a literary device used to embellish speech. This is because many of the idioms of an African language are embedded in its proverbs. As it were, African proverbs are used as sweeteners to communicate effectively. As the Ga writer, Nee-Adjabeng Ankra put it (1966): speaking without citing proverbs is like eating soup that has no salt in it. Proverbs are cited to confirm, reinforce or modify a statement; to heighten and attract attention to a point or message; or simply to summarize a speech. Sometimes, too, they are used to communicate a fact or opinion that might be impolite or even offensive to state in direct speech or in plain language. They are also used to make people appreciate speech or to facilitate understanding and to generate conviction. As one Yoruba observation has it: "A proverb is the horse which can carry one swiftly to the discovery of ideas." Although all these varied uses are significant, they are in fact all means to a common end. The ultimate purpose of proverbs is to impart wisdom, to teach moral values and good social conduct, to warn against foolishness, to influence people's choices and to help them succeed in life.

The statements made in the proverbs reflect true everyday occurrences, but as noted above, they usually have two meanings — literal or primary meaning, in contrast with the deeper or implicit meaning. Take, for example, the Ga proverb: "*Kë onyië shuö sëë lë owuu bö.*" (If you follow in the trail of an elephant, you do not get smeared with the dew.) The statement is literally true. The elephant is a very big animal, and as it goes through the forest it steps on the grass and destroys the shrubs, clearing a path behind and getting smeared with dew. Therefore, if you follow in its trail, you stand less risk of getting smeared with the dew, since the elephant has already cleared it off the grass and shrubs. And the proverb has a real or deeper meaning: if you associate with an important personality, say a rich, knowledgeable or powerful person, you will not lack. It can also be applied to mean that if you believe and trust in God, you will not be disappointed but will succeed.

This feature of proverbs having both a literal and a deeper meaning sometimes makes it difficult to distinguish proverbial discourse from sayings, idioms, riddles and puzzles. In particular, there is no cut and dried demarcation between proverbs and sayings. All may have hidden meanings that are difficult to discern. Nevertheless, it is possible to distinguish one genre

from the other. A key difference between them lies in how they are typically used. Riddles and puzzles are usually cited for fun and entertainment, but proverbs are cited in serious discourse. Another contrast is that, among the Dangme and Ga, words or sounds used in some puzzles are onomatopoeic; that is to say, they sound like or describe the thing talked about in the puzzle. Idioms are usually used in public when it is impolite or indecent to say something in plain words; in such cases similes or idioms (euphemisms) are used to make the topic respectable. For example, it is incorrect to ever label someone a ‘thief’ but you may say (literally in Ga) that ‘his hands pick things.’

Perhaps the most important difference between proverbs and these other forms of speech is that every proverb contains some wisdom and good advice. Take for instance the proverb: "The one who is clothed in cotton wool does not hover over a flame." This has to do with temptation and discretion; it warns against foolishly exposing oneself to things that will ruin one. As in other traditional African societies, the Ga and Dangme use proverbs to embellish speech, to emphasize or summarize a point, or to make it succinct. But always the ultimate purpose of composing or citing proverbs is to counsel people about how to live good and successful lives.

PROVERBS REGARDING CHANGE AND MODERNIZATION

With this background, we shall now look at thirty Ga and Dangme proverbs and sayings that give wise counsel regarding change and modernization.

Tradition

Ga and Dangme proverbs and sayings show preference for the old and proven. It would not take long for an observer of ancient or modern Ga and Dangme society to discover that Gas and Dangmes are lovers of tradition. They have great respect for the age and the wisdom of the elders; some of this wisdom is preserved in their proverbs and sayings. Some of the wise sayings and proverbs explicitly stress a preference for what is old and proven. They contain counsel against abandoning old ways and extol the virtues of continuity. They exhort people to preserve their culture — the customs, beliefs and practices, values, institutions, technologies and all that goes into making people who they are. The proverbs caution against embracing just any new thing that comes along. Witness the following:

The Ga say:

(1) *Blema kpaa nö atsa.*

[The ancient twist of a rope is the one on which to pattern yours.]

This proverb teaches that the ways of the old must always be followed by later generations, if they are to experience success and the good life. The sages of old were convinced that the old ways are better than modern ones — as this Dangme proverb puts it:

(2) *Bë momo bëö pe bë he.*

[An old broom sweeps better than a new broom.]

Not only does this particular proverb extol the old broom; it compares it with the new, grades the old one higher and even discourages use of the new broom. Like many proverbs its

message is general; it may be interpreted as anti-modernist and conservative. For example, it is better to continue with one's spouse no matter the problems, than to look for another in the hope of finding a better one; such a hope may turn out to be an illusion.

Dangme proverb that is more commonly used to express order of precedence in society but which is also used to show the priority of place for ancient things over the relatively new and modern. It says:

(3) *Nömo ngë loko aba fö nököutama.*

[There had been people of old before old people were born.]

Just as there were already elders before those who are now old were born, so too there were equally good tools and ways of doing things before new tools or new methods of doing things were fashioned. Therefore, the new and modern are not necessarily superior to the old; for the old have proven their worth.

There are similar proverbs that have been used to defend or to justify the status quo. For example, the following two Ga proverbs:

(4) *Beni ahuko Lañma tëi anö lë jëi aduji lë yeö nii.*

[Before Lañma (i.e. a stony hilly area on the western boundary of Ga land) was cultivated, the monkeys that lived there had food to eat.]

(5) *Beni sikli nako aba lë, taami wöyeö.*

[Before sugar was invented we ate wonder sweet berries.]

One of the several meanings of these two proverbs is: we can do without the so-called improvements of modernization. We can manage without modern innovations and not be any worse for it, just as we have done all along. All the foregoing proverbs express the Ga and Dangme people's respect and definite preference that they have for old-fashioned, reliable things and time-proven ways.

Lovers of the old ways can be so convinced of their surpassing excellence that they may do more than idolize ancient things; they may view them as irreplaceable. They may imbue old things with the qualities of invincibility and survival over whatever is new, since the latter is destined to disappear soon from the scene. For example the Dangme proverb:

(6) *Koku ngë loko gbogbotle ngë.*

[Before the chewing-sponge plant came (or sprouted), the anthill was.]

Similarly, the Ga say:

(7) *Gbötsui ashigbëñtë, mima shi dani kanya ba.*

[I am Anthill the immovable, the irreplaceable. I was there before the shrub *kanya* came into being.]

These two proverbs have the same meaning. At the primary level, they teach that the anthill is superior to the shrubs that grow on it because the shrubs are dependent upon the anthill. The anthill will remain when the chewing-sponge plant *orkanya* is weeded or withers. At the deeper level, these proverbs mean that before the world came into being, God existed. When the world passes away and is no more, God will still be. But they are not only cited to teach God's eternity. They are also used on occasions when one wants to say that some new teaching or ideology or

party that is currently in vogue may only be a nine-day wonder, leaving the old to survive it; or that a new person in authority throwing his weight about will not last in that position. Thus, the two proverbs are used to express priority, seniority, superiority and prevalence of the old over the new and incoming — even though the new and modern may give the impression of being more civilized or refined, and therefore superior. It is against the background of such teachings and lessons of experience that the elders caution against trying just anything or embracing every new fashion. As Dangme wisdom has it:

(8) *Apee we nö fiaa nö këkë.*

[Do not follow or embrace just any (new) thing or fashion.]

A Call for Balance

With some justification, one may be tempted to conclude from the foregoing that the Ga and Dangme have an unambiguously rejecting mindset against change and modernization. But such a conclusion would be too hasty. For there are other proverbs and wise sayings that display an open and positive attitude towards novelty, even if it is also a critically reserved and cautious attitude. In fact the people are not typically narrow-minded and rigid in their views and ways. On the contrary, they are typically broad-minded, objective and circumspect. They generally appreciate that there are two sides to an issue, and that to do justice one must weigh the merits and demerits of both sides. This predilection for balance and avoidance of bias is witnessed by the Ga proverb:

(9) *Kë okëë ñwëi nö lë, okëö shikpö hu nö.*

[When you have said what there is in favor of heaven, you must also say what there is in favor of earth.]

In other words, you must always weigh all sides of an issue carefully before you can arrive at a good judgment or just decision. The status quo may not always be the best. There may be some good in an alternative; a change may turn out to be an improvement; so it is worth finding out.

Positive Attitudes towards Change

Despite the fact that change is sometimes viewed with caution, suspicion and even hostility, it cannot be denied that the Ga and Dangme people seem always to be on the lookout for something new. They welcome novelty and the unfamiliar and display a joyous acceptance of that which is new. This love for novelty and for anything exotic is reflected in the Dangme proverb:

(10) *Nö fini të Ablotsi.*

[There is no lack of fine things in Europe (the whiteman's land).]

Here a 'fine' thing implies something that is both of high quality and pleasingly different from what is familiar. The saying means that a person should be open-minded and accepting of change; for something good may come out of it. This preparedness to assimilate something new

into things that are already familiar indicates both a dislike for stagnation and a yearning for change.

There is an advantage in change that has to do not so much with the introduction of new things as valuable in themselves, but rather with the avoidance of stagnation. Incessant delays and perpetually doing things by rote lead to retrogression and contempt. These attitudes are expressed in various proverbs. For example, from the Dangme:

(11) *Ke nyu se kë ngë tö mi ö de e saa.*

[If water keeps too long in a gourd (or bottle), it goes bad.]

And in Ga:

(12) *Kë loofölö tsë yë tso nö lë, belë eebi të.*

[If a bird perches on a tree for too long, it is asking for a stone, (i.e. for trouble).]

Because familiarity breeds contempt, frequent change is advantageous in some situations. Another reason change is desirable is that it is natural. No one can successfully stifle or suppress it.

The Ga proverb:

(13) *Añmëëë gbömö nö të,*

[No one puts a stone (a weight) on a person],

This is not merely an observation of the biological fact that no physical pressure bearing down can prevent a person from growing taller. It is also an admonition against trying to resist change, especially change in the form of human development and progress. The proverb is usually cited in contexts where there is some resistance or controversy concerning a change in someone's attitude, life style, circumstances or fortune — in order to press the point that the change should be tolerated or even encouraged because it is deserving. A person cannot remain the same throughout life, but must grow and progress.

New Situations Demand New Approaches

Accumulated trial and error have taught the Ga and Dangme people that new situations demand new responses, and that one cannot always use old solutions to solve new problems effectively; hence there is need for change. The conviction that there is wisdom in abandoning obsolete measures when dealing with contemporary problems is expressed in the following proverbs:

(14) *Ga: Ajötö tsofa tsaaa kanto.*

[The cure for yaws will never cure rickets.]

(15) *Ga: Akë blema ñme ehoo wonu.*

[You do not prepare soup with rancid palmnuts.]

(16) *Dangme: Kpaku fëë kpaku ngë e nya nö.*

[Each calabash has its own fitting lid.]

(17) *Ga: Akë blöfo kpaa eñmööö shwuö ni agbala lë.*

[You do not tie a thread around an elephant to pull it.]

From these, people may learn that in order to achieve maximum efficiency and effectiveness, they must use the appropriate tools and measures, since every tool, cure or measure is suited only for certain things and not others. Inappropriateness and obsolescence pertain not only to the efficacy of some tool or measure to yield a desired effect; time and vibrancy are also factors. What was once appropriate and effective may no longer be so and must give way to the new. Thus the Ga saying,

(18) *Blema bē dōñ.*

[Ancient times are past and gone; the old order has changed].

This is not merely an assertion about an historical state of the world. It is a demand for vitality, a call for change.

Hope in New Circumstances

Owing to the uncertainty of what may come from new things and the familiar experience of mixed blessings that ensue from new things, the Ga and Dangme are rather cautious about embracing certain types of change. In spite of this caution, they have an optimistic philosophy of life by which they rise above ambivalence and trepidation. The Dangme say,

(19) *Aka 'yē ji Nugo yam'.*

[It is by trying — or by adopting the attitude of 'let's try and see' — that one can reach Nugo (Ningo)—one of the Dangme coastal towns far from most of the other towns.]

In the olden days when travel was by foot, it took some effort to go to Nugo. But those who tried eventually got there, hence the saying — *Aka 'yē ji Nugo yam'* — which has now become proverbial wisdom that is used to counsel perseverance in all things. There is a similar Ga saying:

(20) *Ka akaa akwëö.*

[It is worth the while to try and see; let's make the effort and see what happens.]

The coastal Ga and Dangme in particular have learned from their fishing experience what blessings can flow from exercising the virtues of hope and adventure even in the most uncertain circumstances. Sometimes during the lean fishing season when the stock of fish seems to have been exhausted, the fisherfolk go to sea expecting only to catch a few tiny herrings; but to their surprise they catch large mackerel, turbot or kingfish. Such twists of fortune have made them rather hopeful and less skeptical. Out of this experience, their elders composed these proverbs:

(21) *Ga: Atsiö kañfla ta ayaa wuo ni ayagbeö eka_katsa.*

[Fishermen sometimes go afishing for herrings but return with large turbot.]

(22) *Dangme: A woö ma bi ta nē ke a ya wo ö a gbeö yayi.*

[One may mention (or expect) tiny herrings and yet go fishing and catch mackerel or kingfish.]

These proverbs provide hope in times of skepticism and despair, or when people are tempted to ask, 'Can anything good come out of Nazareth?' One may also cite them when faced with anxiety about a new situation.

Accepting Change out of Necessity

The point has already been made that one of the most common reasons for refusing to accept change is simply inertia. Sometimes, however, reluctance to accept change is due not to inertia but to pride and prejudice or mistrust. When these stand in the way of accepting change, the wise sages draw attention to practical wisdom that transcends pride and helps one to survive. Such wisdom abounds in the animal kingdom. Dogs normally eat bones and lions feed on prey. But in times of necessity they adapt to their changed situations; when necessary they feed on grass. Such lessons from mammalian nature led the Dangme and Ga sages to compose these proverbs:

(23) *Dangme: Ke efi jata a e kpeö nga.*

[When a lion is in dire need, i.e. starving, it eats grass.]

(24) *Ga: Këji efi gbee lä, ekpeö jwëi.*

[When a dog is in dire need, i.e. starving, it eats grass.]

These proverbs resonate with the saying that necessity is the mother of invention. New measures and solutions, even if they are unusual and not particularly acceptable, may turn out to be the most appropriate responses and solutions to current problems. Hence in Ga and Dangme society, change may be accepted, for better or for worse, on both rational and prudential grounds.

The Dangme have a proverb that attributes to the common housefly an insightful observation about life, which has a bearing on change:

(25) *"nunuhi a matsë bu abë ke, AJe ngë se kë nya."*

[The chief of the flies told a proverb saying, "The world (i.e. life) moves backwards and forwards" or, more literally: "The world has a back and a front side."]

This proverb was created from the keen observation that whenever a fly perches somewhere, it stretches its hind legs backwards and rubs them against each other, then stretches the forelegs forward and wipes its face with them. The fly is saying that the world moves backwards and forwards. The message of the proverb is that those who want to avoid being caught up in life's deceptions and who wish to be happy, must be cautious, tolerant and prepared for setbacks; for things do not always go smoothly. There are ups and downs; nothing is perfect in all respects. Every popular ideology, slogan, revolution and revival has its progressive aspects and its backward features. For instance, there are advantages and disadvantages in using the latest technologies of modern industry and telecommunications systems. Both healing and adverse side effects may result from the use of even the best medicines. No one can deny the mixed blessings that have come from modern developments such as nuclear technology, reproductive and genetic engineering, long distance travel and tourism, the print and electronic media, to cite just a few. These innovations have brought about improvements in agriculture, longer life and fertility, intercultural penetration and understanding, an explosive distribution of information and knowledge. But they have also introduced many kinds of lethal toxic waste, diseases hitherto unknown, corruption of cultures, increased violence, exploitive sex tourism and so on.

Their experiences with these dualities and incongruities make some people skeptical about innovation and pessimistic about change. Given such experiences in everyday life, proverbs and other sayings have evolved for the purpose of cautioning people not to be overly enthusiastic or overly optimistic about modern innovations. The following Dangme proverbs serve as reminders of the fact that no monolithic progress nor miraculous developments can be claimed for modernization. The Dangme wise people learned long ago that nothing in this world remains the same; rather that things are in a constant state of flux, and that in the ebb and flow of life the state of affairs changes and fortunes change. One thesis passes on, is met by an antithesis, and the two are swallowed up into a synthesis. The pendulum swings and opposites change places. Hence one must be wary of the myth of monolithic development or progress. This is a fact of experience common in nature and in human history, and from which no type of modernization is exempt. To keep aware of these truths and to be cautious about change is the message of the following two Dangme sayings.

(26) *He nē je naa ngē ö, lejē ö nē dibli woo ngē.*

[Wherever the day breaks, the sun also sets (or: darkness also falls).

Also,

(27) *He nē pēē hoo ö, lē nöuu nē e pēē hóó.*

[Where there once is the noise of celebration and festivity, the same becomes a muted place.]

CONCLUSION: BALANCE ACCORDING TO THE SITUATION

If proverbs and wise sayings are a window into a people's culture and philosophy of life, then on the basis of some of their proverbs and wise sayings the Ga and Dangme appear to be ambivalent about modernization and change. On the one hand, there is a clear counsel to resist change as well as justification for continuing in the old ways: *Blema kpaá nö atsaá*. On the other hand, *Akē blema _me ehooó wonu*: the old order must change and yield to the new and modern.

Are these proverbs essentially contradictory?⁷ They appear to be, but in fact they are only superficially so. The proverbs of people everywhere are composed from real life experiences, and so they reflect the mystery and duality of the universe as it is encountered in human experience. Apparent contradictions between proverbs exhibit the fact that people's attitudes to issues in real life situations are complex. The proverbs expressing these attitudes are verbal representations of the nature of human reality, and so they reflect its paradoxes and apparent contradictions. Proverbs are extremely contextual and situational. When the face values of two proverbs are placed side by side and out of context they may seem inconsistent, nonsensical, absurd. But each in the particular context in which it is used may nonetheless enunciate a valid guiding principle for successful living.

Ga and Dangme wisdom suggests that modernization is neither to be avoided as untouchable, nor to be uncritically embraced. New equipment and tools, procedures and methods, systems and technologies may be adopted after careful consideration on utilitarian grounds with respect to a particular situation. Otherwise, the Ga and Dangme view would be to stick to the old ways. When a change is made from something old to something new and the change worsens one's situation, the Ga or Dangme might ask: *Te wötee loo ba wöba? De wa ya loo de we ba?* [Did we go or did we come?] The question expresses disapproval of the change, and advises a reversion to the previous status quo. According to Ga and Dangme wisdom, if

there is any choice in such a situation, it would not be wise for a person, institution, society or nation merely to follow the fashion and adopt the change. Change is good only if it is appropriate in a given context. One must do what suits one, as a Ga proverb advises:

(28) *Këji oyitso tamöö Tëtë yitso lë, Tetteh Tëtë sama.*

[If your head does not have the shape of Tëtë's head, you do not copy Tëtë's hair style — i.e. you do not barb the same style of haircut which makes Tëtë look handsome.]

Again, the sages have given the advice:

(29) *Akwëë mö kroko joo ajoo.*

[You do not dance according to the steps of another dancer.]

You should dance to the steps and rhythm with which you are familiar. For you may not be as adept as the person you want to copy, and you may embarrass yourself in the process. In other words, you should be yourself and not allow yourself to be unduly influenced by others whose circumstances may be different from yours.

After all, there is nothing really new or unique under the sun. A Ga or Dangme might say:

(30) *Nö ni bako da lë, ñshösë eyöö.*

[That which has never occurred is beyond the seas.]

That is to say, however new or different something may seem, its kind has been seen before. One can speculate upon its usefulness, and neither be so scared by it as to shy away nor fall over for it without deliberating first.

In the final analysis, then, the dominant Ga and Dangme view seems to be this: When an individual, family, community, institution, or nation is faced with an option to adopt some new tool or equipment or system or technology, those likely to be affected by it must make a rational and responsible choice about its use. In their wisdom the Ga and Dangme sages did not prescribe any *a priori*, predetermined stance that must be uniformly assumed in every confrontation with change. In practical, contemporary day-to-day living, their progenies do not do that either. Sometimes they are guided by the wisdom of '*Akë blema _me ehoo wonu,*' and at other times by the proverb, *Bë momo bëö pe bë he*. In one case, the wise thing to do is to embrace a change unreservedly. In another, the best decision is to resist change. In yet other situations, it is best to accept a change tentatively in a wait-and-see frame of mind. In all cases, a rational choice must be made which is sensitive to the particular situation, context or circumstances.

NOTES

* Orthographic note: ö = a backward c; ë = a backward E; ñ = an n with a hook to the left at the end.

1. Dr. C.F. Garbers, Chancellor of the Univ. of South Africa (Unisa) made the remark that change is not easy or comfortable, in his address to graduates at a commencement ceremony on 26 Sept. 1997 at Unisa. He had reminded the audience about research concerning the secrets of life in the natural sciences and in other disciplines, and the role that the universities and their products are expected to play in the changing society of South Africa and at the global level.

2. The Dangme are made up of people residing in eight traditional areas: Ada, Ningo (Nugo), Prampram (Gbugbla), Kpone, Shai, Yilo Krobo, Manya Krobo, and Osudoku. All of the eight Dangme sub-groups speak dialects of Dangme which are linguistically similar and mutually intelligible, with only slight differences of usage and pronunciation; but there are more significant differences in the noun vocabularies. The Ga traditional area comprises Ga Mashie, Osu, La, Nungua, Teshie and Tema, where all speak Ga with few differences of dialects.

Although the Ga and Dangme languages are related and similar, they are not mutually intelligible. It is easier for a Dangme to understand Ga than the reverse. Both Ga and Dangme are taught in schools in Ghana up to the diploma level at the university. Discussions have been going on to teach them to the baccalaureate degree level. These are two of the 42 or more distinct languages of Ghana.

According to Dangme and Ga traditions, which are preserved in old songs as well as in some written records, the Ga-Adangme came from a far distant land, east of their present settlements. Some traditions mention Chad as their original home, and others mention Dahomey (now the Republic of Benin), though most traditions say that their original home was Benin—commonly identified as a place in the south central part of modern Nigeria. Whichever the actual location, it is commonly said to lie somewhere on the eastern side of the Volta River, to the north and east of present Togo, probably somewhere within Nigeria.

It is said that some 700 years ago, the Ga-Adangme were driven out by invasions of the Fulani tribe under a chief named Dafoleo. They wandered through Nigeria, Yorubaland and Dahomey. After various stops, they crossed the Volta and most of the tribes founded the Lanimo Kingdom in what is present-day Osudoku. After bitter war that arose among them, they broke up some 300 to 400 hundred years ago and went in several directions until they settled in their present locations.

The Ga and Dangme have a great deal in common in their cultures. They both have a patrilineal system of inheritance. Originally their societies were ruled by traditional priests, but later under the influence of their Akan neighbors, they came to be ruled by secular chiefs. In many respects their cultural outlook is similar to that of other Ghanaian groups and for that matter other African ethnic groups. Their traditional occupations are fishing and farming, but they can now be found in every kind of occupation. Although they are quite enterprising, the Ga and Dangme are notably modest and abhor inordinate ambition, especially for material gain.

3. There is a common tendency to confuse literacy with education. The term 'education' comes from the Latin word 'educate' and means to bring up, or 'to teach.' It involves a process of providing and developing knowledge, training, skills. Such education could be theoretical or practical. Africans had been doing this before the advent of European type schools and colleges. A person may not be literate but highly educated in farming, hunting or fishing technique. There is need to be more careful in describing people as being educated or uneducated.

4. About 68 percent of the population of Ghana live in rural areas. See *National Population Policy* (Accra: National Population Council, 1994), p. 9.

5. According to the latest available figures which are for 1988/1989 the overall education statistics for Ghana are: 41 percent can read; 39 percent can write; 50 percent are numerate. Overall, about 39 percent Ghanaian adults can read, write and do arithmetic. A net of 94 percent school-age children are enrolled. See *Ghana Living Standards* (Accra: Ghana Statistical Service, 1995), pp. 37-43.

6. These notes on the features of African proverbs are taken from my abridged book, "Ga and Dangme Proverbs for Preaching and Teaching" (1996) in CD-ROM, *African Proverbs-Collections, Studies, Bibliographies*, Volume I Record 1/420.

7. See my paper, "Are African Proverbs an Ambiguous Source of Wisdom for Living? A Case Study of Ga and Dangme Proverbs," (1996) in Willem Saayman (ed.) *Embracing the Baobab Tree: The African Proverb in the 21st Century*, CD-ROM: *African Proverbs-Collections, Studies, Bibliographies*, Volume II, Record 1/169.

REFERENCES

- Accam, T.N.N. (1972) *Dangme Abë Gbi*, Accra: Bureau of Ghana Languages.
- Amartey, A.A. (1985) *Namöale*, Accra: Bureau of Ghana Languages.
- (1989) *Beginner's Ga (Ga Kasemö Shishijee)*, Accra: Ga Society.
- Ardey-Acquah, Monica. (1982) "Ga Proverbs" A long essay submitted to the Department of Linguistics, University of Ghana.
- Caesar, C.T. (1982) "The Cultural Content of Dangme Proverbs" A long essay submitted to the Language Center, University of Ghana, Legon.
- Dalfovo, A.T. (1996) "The Proverbs and the Gospel: From Experience to Allegory" in CD-ROM: *African Proverbs—Collections, Studies, Bibliographies*, Stan Nussbaum (ed.), Colorado: Global Mapping International.
- Dzobo, N.K. (1972) *African Proverbs: Guide to Conduct*, Vol. I, University of Ghana, Cape Coast.
- (1975) *African Proverbs: The Moral Value of Ewe Proverbs*, Vol. II, University of Ghana, Cape Coast.
- Hountondji, P. (1983) *African Philosophy: Myth and Reality*, Bloomington: Indiana University Press.
- Kudadjie, J.N. (1996) "Ga and Dangme Proverbs for Preaching and Teaching" in CD-ROM: *African Proverbs—Collections, Studies, Bibliographies*, Stan Nussbaum (ed.), Colorado: Global Mapping International.
- (1996) "Are African Proverbs an Ambiguous Source of Wisdom for Living? A Case Study of Ga and Dangme Proverbs" in CD-ROM: *African Proverbs—Collections, Studies, Bibliographies*, Stan Nussbaum (ed.), Colorado: Global Mapping International.
- Nee-Adjabeng Ankra, E.A. (1966) *Agwaseñ Wiemöi Kë Abëi Komëi*, Accra: Bureau of Ghana Languages.
- Yankah, Kwesi. (1986) "Proverb speaking as a creative process: the Akan of Ghana," *Proverbium* 3.
- (1989) "Proverbs: Problems and Strategies in Field Research," *Proverbium* 6.

CHAPTER IV

COUNTERPRODUCTIVE SOCIO-ECONOMIC MANAGEMENT IN GHANA

A. O. ABUDU

INTRODUCTION

Many former colonies of Western Europe are euphemistically referred to as ‘developing’ countries. The adjective ‘developing’ would be appropriate for describing these treadmill economies if they were moving systematically toward achieving indices of self-reliance in the production of the basic items of food, shelter, health and related services. Thus far, these countries have rapidly become more dependent on ‘aid’ (mostly from Western Europe and Japan) and are net importers of various basic goods and services. For example, Ghana is a net importer of food items that could easily be produced locally, if only the right socio-economic policies were in place. The faltering economies of these low-income, debt-servicing countries lead the author prefer to describe them as ‘underdeveloping’.

Forty years ago Ghana attained its political independence from Britain. While many decorative trappings of the colonial era vanished, many of its *ad hoc* and undemocratic strategies have continued, with adverse consequences for the quality of life of the population. Confounded by severely degenerating economic conditions, in 1983 the Ghana government felt the need to invite the supervision of the national economy by the International Monetary Fund (IMF).¹ Fifteen years later, many aspects of Ghana’s economy continue to have the characteristics of a colonized country as an exporter of mainly raw materials and related unrefined products. Published statistics present the economy as growing. However, its adverse characteristics include high levels of inflation, unemployment, urban congestion, illiteracy, declining educational standards and increasing poverty for most of the population. To the list we can now add increasing external debts, which at the end of 1996 stood at about US\$ 5.3 billion, of which US\$ 1.2 billion (about 22 percent of total external debts) were in the category that should be paid off within three years. Refer to Table 1 for details.

Within any low-income, debt-servicing country such as Ghana, the IMF supports the interests of the industrial countries outside. For example, one of its functions is to ensure that underdeveloping countries service the loans that they owe to the industrial countries in a timely manner. For reasons of self-serving commercial and related interests, each of these industrial creditor countries normally insists that any significant level of its ‘assistance’ must be granted on condition that the recipient country has subjected its economy to supervision by the IMF.

In the latter half of the 20th century (1957) Ghana became the first African country to achieve independence from official European intrusion; in 1980 Zimbabwe was the last. Ever since the post-independence period began, the industrial countries (most of whom had been former colonizing powers) started developing and supporting a new and fast-growing ‘foreign aid’ industry. This system allows donors to use very expensive loans, deceptively referred to as ‘foreign aid’, for extracting commercial and other related advantages from poor recipient countries. Through these loans, the ‘industrial’ countries are able to dump inappropriate and counterproductive technology, expensive advice, and occasionally toxic wastes onto low-income, debt-servicing countries. These expensive loans are collectively responsible for the very high levels of external debt that low-income countries now owe.

While reinforcing underdevelopment in many practical respects, these loans have made former colonies debt-bonded to their previous colonizing intruders. Therefore, while the name has changed from ‘colonial grants’ to ‘foreign aid’, the exploitive activities of these former colonizing nations in these poor countries have rather been intensified. In this essay we explore why, because of the conditions of ‘aid’, dependent, underdeveloping countries have tended to get worse, correspondingly as their external debts keep rising.

CAUSES OF SOCIO-ECONOMIC DYSFUNCTION

There are three major contributors to the dysfunctions in socio-economic management that most of the population presently experiences in Ghana. In this discussion the terms ‘socio-economic’ and ‘macroeconomic’ management are used interchangeably to include all the legislative, taxing and spending policies that are claimed to be responsible for the government’s achieving its objectives of social and economic development for the population. Also, phrases such as ‘most of the population’ and ‘the average Ghanaian’ denote any random sample of the population. The general consensus from such a sample must be the litmus test of whether socio-economic policies are achieving the objectives that the government has advertised. Before we get into the gist of this analysis, we need to spell out categorically the most important source of confusion concerning socio-economic management in Ghana, as in most debt-servicing ‘Third World’ countries. That is the basic *ad hoc* and undemocratic style of administrative management that obtained during the former colonial period and that has remained the same throughout the post-independence period up to the present. The current literature on economic development typically classifies the economies of most minimally industrialized countries — including that of Ghana — as ‘dualistic’. One aspect of this duality is the existence of a ‘modern’ sector that dominates the rest; in Ghana’s case (which is typical) this sector comprises less than two percent of the population. Its methods of production, consumption and lifestyle are easily recognized as imported from the Western world. This sector inherited its culture from the country’s colonial past and, similarly to that period in history, its concepts and strategies of socio-economic management remain basically *ad hoc*, opaque, undemocratic, experiment-ridden, environmentally hostile and alien to most of the population.

The other segment of the local economy is the much larger and more pervasive ‘traditional’ sector, wherein one finds 75 percent or more of Ghana’s population. Its methods of production, consumption and lifestyle are centuries old. The culture and administrative procedures in this sector have been — since before colonial intrusion — basically holistic, transparent, relatively more democratic and almost instinctively applied by the consensus of the population. Its strategies of production are environmentally friendly and therefore automatically self-perpetuating, or to use the new jargon, ‘sustainable’. However, during the post-independence period this sector has been subjected to enormous shocks that have equaled or even exceeded those of the colonial period. The results have been very dramatic and traumatic, because they have occurred in a relatively brief period. Still unfolding, the most severe of these shocks started in 1983, when Ghana invited its socio-economic management to be directed by the International Monetary Fund (IMF). One might argue that as a result of this series of shocks to the traditional sector, the values and generally holistic culture of that vast majority of the population continues to be weakened.

The term ‘dualistic economy’ is a suitable description only if one confines one’s view to a single photographic snapshot of any entire ‘Third World’ economy, including that of Ghana.

However, to explore the dynamics of the interaction between the socio-economic managers and those who are being managed, a more appropriate description would be 'counterproductive' or 'dysfunctional'.

Most citizens in Ghana — as in many other low-income, debt-servicing 'Third World' countries — sincerely believe that, on balance, their conditions of life are worse today than they have ever been. This conclusion can readily be confirmed by observing the levels and quality of their food and nutrition, housing, health services, basic utilities and just about any other contribution to their daily lives. Based on how conditions have degenerated, most of the population see the future as bleak. Economists refer to this type of environment as characterized by zero-sum and negative-sum games.² This general admission of bleak economic conditions means that the current strategies of socio-economic management have been and continue to be inappropriate. The situation is similar to one in which the passengers of a vehicle know their destination. However, after the vehicle has been running for several hours, everybody discovers that the gears have switched into reverse. Meanwhile, the vehicle operators and the passengers feel helpless and unable to get the vehicle to function properly, nor do they have means of switching to another vehicle. Yet, whether in the role of socio-economic managers or of those being managed, most of the players in this game are cognitively fit, rational people. Despite the pain and stress of poverty that virtually everyone is enduring, one cannot describe these victims as masochistic, as incapable of rational decision-making nor as predisposed to a non-progressive way of life. In relation to Ghana's economy and that of most other low-income, debt-servicing countries, however, there appears to be a fatalistic commitment on the part of leaders to the use of counterproductive processes of socio-economic management. This is a situation that the population is forced to support at a very high cost, whereby the resulting hardships continue to be pervasive and intense. One very serious result is that the percentage of the absolutely poor has slipped from less than 20 percent of the population at the time of Ghana's independence in the late 1950s to its presently estimated level of about 60 percent, and this situation seems to be getting worse.

Most of Ghana's modern history has been dominated by uninvited or externally imposed British colonialism. It is important to distinguish between 'imposed' or 'uninvited colonialism' and its more recent 'invited' or 'solicited' version. The invited type now persists and is being intensified in most low-income, debt-servicing countries. Old style colonialism was a very harsh, crude, extractive, exploitive, parasitic and predatory institution whose costs to its victims have yet to be fully assessed. The strategies that were employed resulted in various distortions that initiated the underdevelopment of the colony structure that has persisted in the post-independence period up to the present.

According to its apologists, colonialism introduced civilization into Ghana, along with Christianity, a unified government and exposure to the modern world. However, the same apologists do not offer any justification for the human rights violations that were committed through colonialism against many defenseless people. For instance millions of these victims were forcibly exported into slavery in distant lands. Meanwhile the fate of those left behind was no different, since they were reduced to similar bondage on their own land. Other victims of colonization (including the indigenous peoples of the Caribbean and other regions) have long become extinct. The struggle for 'self government' and 'independence' eventually brought about the end of colonization in Ghana some forty years ago. However, the economic reality on the ground is that this 'independence' so far has proven to be hollow. In the last four decades, many post-independence government policies have implemented a style of socio-economic

management whose methods and effects can be described as a continuation of colonization or a recolonization of the population.

One might argue that there are only two important innovations marking neocolonialism. One of these is that the former colonizer, in this case Britain, no longer exercises the monopoly that it once enjoyed in Ghana. There are now a few more foreign participants. The second is that a change in government simply reorganizes members of the respective teams by incorporating fresh sets of indigenous and foreign players. Such conditions offer opportunities for these players to speedily improve their own material conditions of life. Under these conditions in a socio-economic landscape rife with zero-sum and negative-sum games, speed in effecting related predatory activities is clearly very important to those in power. As a result, there occurs a very rapid crumbling of the high level of social cohesion that was guaranteed by the holistic, indigenous systems of leadership in pre-colonial times.³ Presently, the relentless pursuit of personal gain by socio-economic managers and the same pursuit by those being managed rapidly reinforce each other in the direction of increased psychological stress and personal poverty for a majority of the population. These degenerating conditions are compounded by the fact that the population is increasing, and with it are people's aspirations for a better material standard of living.

It is within this environment that one needs to explore four sources of the existing counterproductive style of management responsible for the current socio-economic impasse. The first of these is the almost totally disregarded 'traditional' sector. The psychology of about 80 percent of the population is influenced by traditional culture. Yet very few of the positive contributions made by indigenous livelihood and home management have been injected into the formulation, implementation and monitoring of national socio-economic development. As noted already, the source of this deliberate oversight can be located in the colonial paradigm itself and its deep influence on the culture of administrators in the 'modern' sector that continues to this day. Meanwhile, as has also been suggested, the culture of the 'traditional' sector is crumbling very fast, a process that has been intensified ever since the memorable economic nadir of 1983.

A second contributor to the present set of national economic problems is the style of administration throughout the civil service sector hierarchy. Any casual observer can confirm that:

- The objectives of socio-economic management are assembled opaquely by the respective Ministries of the government in formats that do not permit the average citizen to feel their positive effects directly improving his or her quality of life. There is little global coordination of the total set of objectives of all the Ministries, departments and other agencies within the public sector.
- The average civil servant does not know the specific objectives of his or her Ministry, if by 'objectives' we mean the accomplishments that average citizens can recognize as positive contributions to improving their quality of life.
- The very few brochures, printed information, seminars and effective public relations efforts spelling out government services for the population are chiefly propaganda. They yield generalities and conclusions that are based on self-monitoring and self-evaluation gestures. These communications explicitly make increasing demands upon the public for more resources to counter perpetually discovered constraints; they are dominated by self-praise for achievements that most citizens cannot sincerely recognize as having improved their lives.

A third important contribution to counterproductive socio-economic management in Ghana comes from invited colonialism or recolonization. To facilitate this process, the industrial countries use two principal channels for dispensing a variety of very expensive loans collectively referred to as 'foreign aid'. As presented below, most of these forms of 'assistance' come through multilateral and bilateral channels, while very modest amounts come from an increasing variety of foreign Non-Governmental Organizations (NGOs). Ideally, what Ghana — or any 'Third World' country — needs is access to its own financial and related resources that have been earned from trading with other countries. However most donors discourage imports from 'Third World' countries while preferring to offer more 'foreign aid'.⁴

Almost immediately after Ghana attained its independence in 1957, the government bit the bait of 'foreign aid'. The trend has since intensified to the present situation in which most elements of national prioritizing and related strategies for socio-economic development are formulated and directed increasingly by foreigners. This passive type of recolonization of the economy is just as devastating for the population as the previously imposed type. Nonetheless, the importance of this element of foreign control is clearly defended by routine pronouncements about the economy by various officials of the Brettonwoods institutions that comprise the International Monetary Fund (IMF) and the World Bank. Meanwhile, reinforcements of these statements come from the officials of various other institutions that are owned by the industrial countries. In addition, top Ghanaian government officials strive to confirm that they have produced results that are consistent with existing instructions from the donors of 'foreign aid' — collectively referred to as 'the donor community'. No matter how drastic or draconian the effects of any imported socio-economic policy may be, government officials are usually confident that the population at large can be educated to accept them. This method of governance that avoids consultations with the population when formulating and implementing policies, was inherited from previous colonial administrations and has not changed under post-colonial governments. The 'ordering' and 'instructing' under the former colonial administration are now replaced by 'educating', 'conscientizing' and 'enlightening' the population. Meanwhile, the threat of state violence as an optional resort for enforcing government decisions always lurks in the background. As confrontation replaces consultation and accommodation, the government and the governed become adversaries of each other. Obviously, strategies of planning *for* the population but not *with* them create a lot of stress for the population. Such strategies violate the most important element in the democratic process, i.e. the need to consult with the population in designing what is claimed to benefit them.

POSITIVE VS. NORMATIVE ECONOMICS

One of the first lessons in elementary level economics theory is to clarify the distinction between positive and normative economics. While discussions of positive economics are theoretical and scientific, those related to the normative aspects are highly subjective. This subjective aspect of economics deals with determining what is 'good', 'acceptable', 'best', 'better', or 'worse' in the choice of socio-economic objectives. Meanwhile, there is no objective or neutral way of justifying any normative prescription. Questions of the legitimacy of a policy should always be addressed by those who seek its benefits and bear the costs of related decisions. Such an approach logically must involve consultation with the affected population. This has been part of the democratic process that was used by indigenous peoples for centuries, including those

in West Africa — until such governance was drastically altered by uninvited colonialism, and has been eclipsed ever since by colonialism's invited version.

Nonetheless, the ideals of democracy still dictate that the choice of socio-economic objectives and related goals should be made voluntarily by the population. Once objectives have been established, experts should be invited subsequently to identify and to offer advice about the alternative strategies for meeting them, so that the citizenry may choose affordable options. Such an approach was never operative under imposed colonialism and it continues to be by-passed under the invited neo-colonialism current in Ghana and in other debt-servicing, underdeveloping countries.

GHANA'S EXPERIENCE WITH FOREIGN 'AID'

During the early period of Ghana's independence, most of the foreign 'aid' came from governments of various industrial countries to the government of Ghana.⁵ In the language of the 'foreign aid' industry, these types of loans from a government of an industrial country to that of any 'Third World' country are referred to as 'bilateral foreign aid'. At the beginning, the local beneficiaries of these loans were mostly public agencies that continue to this day to be prominent recipients of 'aid'. It was only in more recent years that 'aid' resources have been extended to institutions in the private sector. Also in more recent years members of the donor community have intensified their use of a cartel approach toward 'Third World' countries. A typical donor will normally insist that it would consider giving aid to a developing country only if its style of socio-economic management has already been approved and is being⁶ supervised by the International Monetary Fund (IMF).

International Institutions: IMF and World Bank

Before we proceed with exploring the effects of these developments, we need to make three clarifications. The first of these is that the IMF and the World Bank reinforce their respective efforts in the socio-economic management of low-income, debt-servicing countries. The second is that these institutions come into a country with their assistance only after the host recipient country has invited them. The third factor is that the governments of host countries are assumed by the IMF and the World Bank to be fully responsible for the problems which compelled them to seek foreign help. Meanwhile, the paradigms under which these foreign institutions operate eventually contribute to further the corrosion of economic conditions in the host country, although this element of the global economy is not officially countenanced. Indeed, it is actively obfuscated by the rhetoric of 'aid to developing countries' published and distributed by the World Bank in the form of country reports, discussion papers, symposia proceedings, special issue documents, research reviews, academic journals and advisory pamphlets.

The pursuit of 'economic development' is such a broad and vague objective that nobody with goodwill can be counted rationally as standing against it. However, it is when we delve into the details and the processes of achieving this objective that we can identify serious problems. Deliberate preoccupation with implementing specific strategies for economic development by 'Third World' countries was inspired by previous experiments of a similar nature in Russia, China and other communist or socialist countries. This resulted in all types of imported ideologies and strategies which eventually led to the form of invited colonization and progressive impoverishment that most low-income countries now suffer. Imported strategies of economic

development management, including those currently imposed by the IMF and the World Bank, typically aim at achieving many broadly stated socio-economic targets; e.g. projected annual increases in per capita Gross National Product (GNP) by five percent (or some other percentage), reducing the level of inflation from, say, fifteen percent to ten percent, reducing the government budget deficit by ten percent, improving the nation's balance of payments during the next decade, and other publicized objectives of this nature.

The average person, including the citizens who make these pronouncements, cannot clearly link the effects of these global objectives to their personal lives. Even for the average educated citizen, these types of targets carry totally empty concepts. Moreover, statistical data can be manipulated — as they often have been — to suggest that previously stated targets have been achieved or even exceeded. Part of the problem is that these objectives, even when they are presented as fulfilled, have not been reflected so far in any manifest improvements in the citizens' quality of life. In addition, the importers of these expectations for 'economic development' and vaguely related socio-economic targets have used these objectives as opportunities to experiment with achieving a variety of open and hidden agendas that work against the interests of host environments.⁷

In contrast, it is easier for average citizens to monitor what is happening to them when the socio-economic objectives of the government are stated in graphic and precise terms. For example, a specific target for national development might be the provision of 300 boreholes or wells, one hospital, ten secondary schools and 100 miles of tarred roads for each region of the country, to be completed within a specified number of years. This is the type of planning that most of the population in Ghana and throughout the world can understand and deal with. Here, what is important to emphasize is that people seek solutions to specific problems and the removal of specific impediments to their enjoyment of the good life as determined by themselves. Insofar as this agenda is not pursued, the current system of socio-economic management is just as alien and as opaque to the average citizen as it was during the previous colonial period. Economic growth in Ghana has been slow when it is contrasted with growth rates in the population and in the aspirations of the population for improvements in the material quality of their lives.

A combination of these factors together with strenuous sales campaigns by foreign peddlers, eventually led to the conviction of post-independence governments that a variety of very expensive external loans — popularly termed 'foreign aid' — could get the economy out of its difficulties. There are two types of such loans. The bilateral type, as noted earlier, comes from one donor government to a recipient 'Third World' country. The multilateral type comes from the World Bank or from any of several regional development banks, almost all of which are owned by (or their policies are controlled by) the Western, industrially affluent countries including Japan.

A coherent rationale for an individual (or a country such as Ghana) to resort to borrowing capital is that the money is expected to solve problems and thereby to achieve two objectives. One of these objectives is that the money they borrow should be so productive as to enable their pay-off while still leaving a surplus of benefits. Thus the loan contract should yield less stress or no stress on the borrower. The second rational motivation for borrowing is that a series of loans may eventually yield enough surplus so as to enable the borrower to accrue gradually fewer and fewer external debts. Neither of these conditions has materialized for Ghana, nor have such circumstances obtained for most other low-income, debt-servicing countries. An estimate of the total volume of external loans that Ghana has used during the past forty years of its independence

is not available, but this amount must be several billions of dollars. Ironically there has been very little to show as net benefits, in terms of improving the quality of life for the average citizen. Note that this analysis does not touch upon internal domestic debts nor upon those that the government owes to private citizens and to private institutions within the country. The data in Table 1 below present the current situation related to these external debts.

Considering the size and level of performance of Ghana's economy — even at its highest levels of productivity — these debts are very high indeed. The extent of the related stress on the economy is partly revealed by the volume of short and medium term loans, since these must be paid off within a period of three years or less. And they must be paid by a country in which 60 percent of the population lives on or under the poverty line. Meanwhile, similar to those of most low-income countries, Ghana's external debts will keep growing through the following channels:

1. The interest payments on these loans continue to pile up faster than the capacity of the country to pay them off.
2. The government continues to contract for more loans for two main reasons: to reduce the level of previous loans (some of which are due, but cannot be paid off), and to finance fresh projects (for which the government has insufficient or no revenue).

Table 1
Ghana's External Debt, 1991-96
(Million US\$)

CATEGORY	1991	1992	1993	1994	1995	1996
Short-	29.4	71.2	197.2	267.6	270.5	286.0
Medium-	1329.8	1262.1	1252.3	1212.9	976.0	881.7
Long-term	2437.7	2731.6	3230.5	3541.7	3827.8	4179.3
TOTAL	3796.9	4064.9	4680.0	5022.2	5074.3	5347.0
Short and Medium term						
Total	1359.2	1333.3	1449.5	1480.5	1246.5	1167.7
Total	35.8	32.8	31.0	29.5	24.6	21.8

Source: *1997 Macroeconomic Review and Outlook*, Centre for Policy Analysis, Box 19010, Accra-North, Ghana.

Therefore, under the current counterproductive strategies of socio-economic management, Ghana's faltering economy cannot pay off these loans without getting into more debt. This means that Ghana's debt-bondage continues, and so the government is forced into obeying instructions dictated by creditors at the Paris Club and by the IMF.⁸ Meanwhile, the effects of paying off these loans will be felt as the population is made to bear more taxes. Some of these taxes will be explicit, such as taxes on incomes, fuel, utilities, various goods and services. Others will result from inflationary financing by the government and depreciation in the exchange rate of the local currency — as has now become the trend.

As stated earlier, a 'Third World' country seeking bilateral 'foreign aid' must first submit its macro-economy for management by the IMF, working cooperatively with the World Bank. The

related set of mandatory instructions or conditionalities form an IMF Structural Adjustment Program (SAP). Regardless of the unique economic, cultural and social circumstances of a country, an IMF structural adjustment program typically is a standard package hastily applied. The main purpose of these SAP and related policies is to establish a market-driven environment in which the free up-and-down movement of prices determines where non-human and human resources should be used by their respective private owners. This defines private enterprise capitalism.⁹

Some Effects of an IMF Structural Adjustment Program

Throughout the remainder of this discussion it should be borne in mind that we are dealing with normative issues. That is to say, the very expression of a goal or objective or standard describes neither just what has happened nor what will happen in an economy, but what should happen. Consequently, it may be argued that, contrary to the present methods employed by the IMF and host governments, any program that is meant to benefit the population should be subjected to transparent procedures and to public debate. Both a choice of national objectives and the strategies selected to meet those objectives are normative matters that should not be entrusted solely to local or foreign experts. Rather, what is called for is the use of genuine forms of public consultation consistent with the customs and cultures of the population. In Ghana's pre-colonial history there are clear protocols for the way ruling chiefs follow consensual democratic procedure. The consensus that emerges then reflects the genuine wishes of the population. Citizens would have compared the anticipated costs with the benefits that they strive every day to achieve. Any strategy of socio-economic management failing in these key respects of democratic procedure is counterproductive from the perspective of average citizens.

An IMF structural adjustment program (SAP) usually creates immediate and dramatic economic hardship for the majority of the population. This situation will now be sustained for decades. Although a low-income country cannot refuse to implement its instructions, the IMF does not normally provide what is referred to as 'bridging finance'. These are funds that would be used in preparing the ground in a manner that would cushion the economy in relation to the immediate impact of the typically draconian elements of a structural adjustment program (SAP). For example, one of the immediate effects of these imported policies is a sudden increase in the prices of most goods. (With 'bridging' funds, the government can increase the stocks of selected critical items and have them ready. These can then progressively be released into the economy in order to reduce the rate at which related prices will rise during some transitional period.) A few of the elements of an SAP are illustrated below to show how some of them make absolutely no economic sense, while they simultaneously leave most of the population worse off than before any economic recovery was initiated.

Significant Devaluation of the National Currency. The IMF is committed to ensuring that the respective values of all the currencies of its members will freely fluctuate against each other, as determined by the market forces of demand and supply. This process is referred to as floating the currencies. The devaluation of the currency by a developing country is only a first step. Eventually it will be made to 'float' and, most predictably, it will continue in free fall almost indefinitely. This is what has happened in Ghana. Just before Ghana started implementing its IMF-supervised SAP in 1983, the exchange value of the local currency (the cedi) as revealed in local parallel markets was under ten cedis = one US dollar.

However, during the period of IMF tutelage, the exchange value for the cedi has continued to depreciate, as can readily be seen in Table 2. Indeed, in the IMF process the exchange value has tended to reflect a bias in favor of imports. As stated below Ghana is a net importer of a variety of items that range from food to machines. The monetary value of the import content of locally produced items can range upward about 60 percent. Meanwhile, the level of manufacturing in Ghana is low, and due to the costs of production (which include the cost of uneliminable manufacturing inputs) the quality of most outputs cannot survive international competition. Therefore floating the Ghanaian cedi has increased the cost of imported manufacturing and industrial inputs; this has impelled many local businesses to favor imported goods that can be retailed directly to the public for immediate cash returns.

Ironically, although devaluing and eventually floating the cedi was meant to increase Ghana's exports, it has rather worked in the opposite direction. The data in Table 2 show that the value of the floated cedi has continued to decline, as more of it is exchanged per unit of the US dollar. Meanwhile, the data in Table 3 shows that firms engaged in imports earn more cedis to the dollar than they get from exports.

Table 2

Nominal	1991	1992	1993	1994	1995	1996
Exchange Rate (Cedi/US\$)						
Interbank Rate	388.1	498.3	799.5	1046.8	1430.0	1734.1
Forex Bureau Rate	399.0	541.0	816.5	1068.9	1519.2	1767.0

Source: *1997 Macroeconomic Review and Outlook*, Centre for Policy Analysis, Box 19010, Accra-North, Ghana.

Table 3

ITEM	1991	1992	1993	1994	1995	1996
Imports	110.2	130.3	162.6	165.7	144.0	129.6
Exports	84.8	98.2	114.5	128.4	103.8	78.5
Anti-Export Bias*	1.30	1.33	1.42	1.29	1.39	1.65

Source: *1997 Macroeconomic Review and Outlook*, Centre for Policy Analysis, Box 19010, Accra-North.

*This bias is defined as the ratio between the effective exchange rate on imports and that of exports. Values greater than one indicate an anti-export bias.

Indeed, in September of 1997 the rate was hovering between 2,190 and 2,202 cedis to the US dollar and there are no significant policy initiatives that would reverse the downward slide in the value of the local currency. Probably to the IMF and local Ghanaian experts trained according to the IMF worldview, this situation may be regarded as moving in the right direction. However, the increasing depreciation of the cedi adversely affects the welfare of the population

by injecting paralyzing uncertainty into contracts involving future payments and receipts. Immediately below we look at the related reactions of the population that contribute further adverse factors into the management of the economy.

During periods of such extreme inflation as prevail in Ghana, the population tends to prefer keeping funds outside the banking sector. Money must be used speedily or else it loses its value week by week. Therefore, so as not to miss various opportunities that can spring up at any moment, keeping one's money at home is more convenient and more lucrative than keeping it in the bank.¹¹ A second significant reaction to inflation comes from the private business sector. Most business contracts in Ghana now explicitly state prices and rents in US dollars, or do so implicitly (by converting US dollar prices into cedis). There is now increased preference among the population for the acquisition and use of the US dollar and other convertible currencies. As a result these foreign currencies now form an important component of the domestic money supply. Presently the central bank (the Bank of Ghana) cannot know precisely the total volume of foreign currencies flowing in and out of the domestic economy. Therefore, with respect to the total money stock (now made up of cedis and foreign currencies), the central bank is wholly ineffective in using conventional banking strategies for regulating the money supply in a manner that stabilizes domestic price levels.

As inflation has now become endemic and is getting worse, the average Ghanaian salary and wage earner is further impoverished. Although his nominal income has been increasing, it has not kept pace with the rate at which the cedi has been depreciating in value. That is why — if these wages and salaries are adjusted for domestic inflation — the current minimum wage for workers in the public sector is only a fraction of the level it was about fifteen years ago. Rates of inflation during recent years are presented in Table 4. Judging from most of the population's experience, the data in this table grossly understate existing inflationary trends in the economy. This conclusion is easy to confirm through sampling the opinions of households or of any other group within the population.

Table 4
Average Rates of Inflation, 1990-96 (Percent)

ITEM	1990	1991	1992	1993	1994	1995	1996
Comb'n	37.2	18.0	10.1	25.0	24.9	59.5	46.6
Food	40.3	9.0	10.4	25.0	25.9	62.2	35.8
Non-Food	35.0	23.2	9.9	25.0	24.4	58.0	52.3

Source: *1997 Macroeconomic Review and Outlook*, Centre for Policy Analysis, Box 19010, Accra-North, Ghana.

Meanwhile, the evasive strategies of the private sector are not available to most salary and wage earners. These employees cannot have their incomes indexed to changes in domestic inflation nor expressed in equivalent convertible currencies. If viable solutions to the worsening economic conditions are not forthcoming, the crisis is likely to result in labor unrest and possibly violent demonstrations. Unfortunately, nominal increases of incomes do not solve the underlying problems of disjointed socio-economic management and its resulting retarded economic growth. In theory, if a country previously had an overvalued currency, its new devalued or floating value would subsequently increase its exports to a higher level than would have occurred without such

an adjustment. This is because a devaluation makes locally produced goods cheaper for foreign buyers. For reasons presented below this principle fails to apply for almost all low-income, debt-servicing countries. In contrast, the theory works for industrialized countries because each of them produces a very wide range of manufactured products that easily substitute for each other.

Let us take the example of the American dollar being devalued in relation to the Japanese yen, as happened in recent years. This was good news for American producers. They exported more to Japan because US-produced goods and services were attractive substitutes for similar items produced in Japan as the U.S. products became cheaper for holders or earners of Japanese yens. The Japanese spent their vacations in the US and imported more American-made products, including Japanese cars produced in America by Japanese firms.

The situation among countries in the European Union has been quite different. In accord with the theory concerning overvalued currencies stated above, members of the European Union (EU) have considered it unwise for their respective currencies to float freely against each other. Therefore, no EU country is allowed to use the devaluation of its currency for increasing its exports at the loss of other countries' markets. Thus in March 1979 the EU established its Exchange Rate Mechanism (ERM) which permits the respective currencies to fluctuate against each other only within very narrow limits. On this scheme the EU countries peg the values of their respective currencies against each other. Of course, this is a precaution that an exclusive club of powerful countries is capable of taking. These countries are very effective in formulating the policies of the IMF and consequently would hardly allow themselves to be supervised by that institution to the extent that it dominates the economic policies of low-income countries.

In contrast, a devalued or floated currency is really bad news for the populations in most low-income, debt-servicing underdeveloping countries, for the following reasons:

a) The prices of all their exports are quoted in US dollars or in currencies of the other industrialized countries. Only a very few items and services are sold in local currency to visiting foreign tourists and foreign residents. For most countries, these sales constitute a very tiny portion of their total exports. Therefore, devaluing the local currency changes nothing except to make imports more expensive.

b) Ghana imports a wide variety of items as inputs for production and for local consumption. Imports account for approximately 60 percent of the value of goods and services that are locally produced for consumption or for export. These include petroleum products, medications, cement, various building materials, fertilizers, motor vehicles, bicycles, wheat, cocoa, timber, output of gold mines, consultancies, and other commodities. These become more expensive when they are financed through 'foreign aid' funds for reasons that are explored in greater depth elsewhere.¹²

c) Economies that are nearly stagnant or growing at inadequate rates already produce at low levels, and prices will already be high. As we have noted, devaluing or floating a local currency increases the prices of imports. Meanwhile, as we also noted, imports can account for as high as 60 percent of the inputs of many locally produced goods. Therefore, whether in terms of imports or locally produced goods, devaluing or floating a local currency adds to already existing domestic inflationary pressures. Since this depresses the material conditions of living for most of the population, more fuel is then added to the domestic unrest that moves an entire population in the direction of social explosion and political instability.

d) Most of the exports of underdeveloping countries — mainly primary products — go to the industrialized countries. Under enormous pressure from the IMF and the industrialized countries to provoke the servicing of 'Third World' external debts, most low-income, debt-

servicing countries are now using various environmentally hostile strategies — including those financed through ‘foreign aid’ channels — for rapidly harvesting whatever they can of their natural resources for export markets.

In the effort to boost exports, counterproductive technologies are currently used for some of these extractive activities. The environmental pollution now being introduced will linger and threaten biological life for centuries to come.¹³ For example, the highly potent dichlorodiphenyltrichloroethane (DDT) is a centerpiece chemical insecticide used in the cocoa industry. Through ignorance, some of it gets diverted and is used for killing fish in streams and ponds. Meanwhile, the same bodies of water serve the consumption needs of humans, livestock and other biological species. Inefficient methods used by local populations in strip-mining for gold¹⁴ and the harvesting of timber have rapidly denuded large areas of land, and now seriously contribute to soil erosion and desertification in Ghana. In relation to strip-mining, the chemicals being used will definitely pollute surface and underground water, thereby posing a permanent threat to biodiversity as well as to human and zoological health for centuries to come.

The export of raw materials is the only outlet available to these low-income, debt-servicing countries, especially as the industrialized countries keep increasing the effectiveness of their tariff and non-tariff barriers against imports of migrant labor and of processed or finished imports from the ‘underdeveloped’ countries. For example, the tariff or import duty levied on chocolate by the industrialized countries is higher than that for cocoa beans. The same can be said for all byproducts of various raw materials that are currently exported to the industrialized countries. Meanwhile, in the face of all these protectionist measures by the industrialized countries, the institutions that they control — the IMF, World Bank, various regional developing banks and bilateral financing channels — all insist on ensuring that developing countries open up their markets and implement related liberal trade policies.

As a result, SAPs encourage these poor countries to sustain the only types of export that face minimal restrictions to market access within the industrialized countries. These are their ‘traditional’ exports of extractive raw materials, primary and low value-added products. As per Table 5, in Ghana these primary exports of cocoa, gold, timber and other raw goods could be processed before export into many byproducts. However, if Ghana were to convert her cocoa beans into chocolate or her timber into furniture, the tariff walls against the related imports moving into industrialized countries would be so high that the manufacturing venture would not be financially feasible.

As the data in Table 5 show, after forty years of its independence and more than a decade of pursuing an IMF-supervised SAP, Ghana’s most important sources of export earnings are mainly those classified as ‘traditional’ — so-named because they originated in colonial times. ‘Non-traditional’ exports include handicrafts, local textiles, tourist services, a few processed items and even some raw materials that the country has tried to develop in the post-independence period. The value of non-traditional exports forms a very small proportion of total exports, as also revealed in the table below.

Table 5
Value of Exports

(Million US\$) 1991 1992 1993 1994 1995 1996
ITEM

Cocoa Beans	315.9	276.81	250.46	295.00	361.06	482.49
Cocoa Products	33.10	25.65	35.41	25.22	28.42	26.19
Gold	304.44	343.36	433.95	548.62	647.27	612.18
Timber	124.22	113.87	147.37	165.36	190.57	141.39

Other

Traditional	163.15	160.06	122.79	114.71	101.87	247.97
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TOTAL

Traditional	940.50	919.75	989.98	1148.91	1329.19	1234.59
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Non-Traditional	58.83	66.50	73.65	88.63	101.98	275.63
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TOTAL EXPORTS	999.33	986.3	1063.6	1237.7	1431.2	1510.22
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Percent of Non-traditional	5.89	6.74	6.92	7.16	7.13	18.25
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Source: *1997 Macroeconomic Review and Outlook*, Centre for Policy Analysis, Box 19010, Accra-North, Ghana.

Reduction in government expenditures

Truly there is often enormous waste in the activities of government and public institutions. A very crucial reason is the perpetuation and enlargement (chiefly by default) of colonial-oriented institutions that are unsuitable for the new post-independence demands of socio-economic development. These institutions include the public sector (government ministries, agencies and public corporations). The waste inherent in the activities of these structures should be reduced to the lowest feasible level. However, since this entails widespread down-scaling of staff, it would make sense if the cuts and (ideal) levels of expenditure were based on attaining specific socio-economic objectives that enjoy widespread public endorsement. In the case of Ghana, employment in the public sector was reduced by 53 percent during the period 1987-1991. The increase in unemployment, combined with other factors in the SAP, caused simultaneous declines in the volume and quality of social services, including health and education. The resulting reduction of investment in human capital has since added its share to already increasing trends in unemployment and increased material poverty in the population. Ironically, operators in the 'foreign aid' industry in Ghana have recently been implementing programs of 'capacity-building' for the public sector, but with no clear links to attaining specific socio-economic objectives that might be assessed by average citizens. Projects of this nature mean more expensive loans, with an increase in debts for Ghana and its subsequent debt-bondage to foreign governments and institutions.

Privatization. This refers to the sale of public enterprises to private firms. Similar to most sub-Saharan African countries, Ghana has a relatively underdeveloped private sector. There are hardly any citizens wealthy enough to buy large enterprises, such as those that were previously run by the government. The most lucrative of these enterprises have now been sold to non-Ghanaians using rather opaque methods. Therefore, it is not possible to comment on how these assets were sold to foreigners or whether this was at less than their market value, nor if these

transactions have further consolidated more wealth in the hands of the privileged few within the Ghanaian population.

Increases in Interest Rates. This policy is meant to boost the level of domestic savings. It is also meant to ensure that financial resources are put to the most productive uses, such as the export sector that is expected to boom. Table 6 below has recent information on interest rates within the Ghana economy.

It is obvious that high interest rates in any low-income, slow-growing economy encourage business entrepreneurs to switch from riskier activities such as farming, manufacturing and other forms of production to those that are less risky and bring in the speediest returns, such as trade. To this factor we must add two compounding determinants. One comes from the import bias in floating the cedi, as discussed earlier. The other concerns removing import controls, as addressed below. The overall result has been that local manufacturers switch to import trade activities. That is why the warehouses of many of these enterprises now stock imported finished products waiting release for sale. The IMF, World Bank and other supporters of these SAP policies effectively disregard all these counterproductive effects of the SAP, as if to say, ‘We pursue the correct theories; don’t confuse us with the facts.’

Table 6
(Averages in Percent per Annum for the Period 1990-96)

1991	1992	1993	1994	1995	1996	Bank Rate	31.8	19.4	34.2	30.8	41.5	45.0
SECTOR Agric, Fishing &												
Forestry	8.5	23.5	28.9	27.8	33.3	38.6						
Export Trade	29.2	22.8	28.2	27.3	32.3	39.6						
Manufacturing	29.6	24.0	29.5	29.9	34.4	41.5						
Others	29.9	24.8	30.9	31.6	37.1	42.9						

Source: *1997 Macroeconomic Review and Outlook*, Centre for Policy Analysis, Box 19010, Accra-North, Ghana.

Increases in Taxes. This is meant to improve levels of government revenue and government savings. Presumably, in virtue of these revenues, the government is able to provide a greater variety of public services from its increased investments in infrastructural projects such as roads, irrigation dams, generation of power, provision of telecommunications facilities and environmental sanitation. These and other projects are socially useful but the private sector finds them insufficiently profitable. Most of the taxes are indirect types, such as sales taxes and value-added taxes. Being basically regressive, they hit hardest the relatively poorer, more vulnerable and less vocal people in the population. As stated earlier, the percentage of Ghana’s population that is living below the poverty line has been increasing more rapidly during this recent period of macroeconomic management of the economy by the IMF. The current estimated level of people living below the poverty line is about 60 percent of the total population of the country. This fact alone means that as taxes have become more regressive, those that are hit the hardest are the same people who already have enormous problems with physical survival.

Removal of Import Controls. This policy is meant to stimulate competition from abroad and to make local industries more efficient and competitive. It is analogous to forcing physically handicapped novices to compete against Olympic medalists. This policy encourages local business people and their partners abroad to dump relatively cheap imports into the economy. The following Tables 7 and 8 show that non-oil items make up more than 80 percent of Ghana's total imports in recent years. Most of these imports are second-hand consumer items that range from used clothes, bicycles and car parts, to refrigerators and other items that enterprising citizens import for recycling in the local economy. Therefore the poor, whose numbers are increasing, can at least manage to afford some relatively cheap used clothes and other rejects from the industrialized countries.

Table 7
Imports FOB (Million US\$)

ITEM	1991	1992	1993	1994	1995	1996	1991-96
Non-Oil	1153.6	1299.0	1574.4	1408.8	1496.8	1563.9	1416.1
Oil	165.1	157.5	153.6	171.1	191.0	259.1	182.9
TOTAL	1318.7	1456.5	1728.0	1579.9	1687.8	1823.0	1599.0

Source: *1997 Macroeconomic Review and Outlook*, Centre for Policy Analysis, Box 19010, Accra-North, Ghana.

ITEM	1991	1992	1993	1994	1995	1996	1991-96
Non-Oil	87.5	89.2	91.1	89.2	88.7	85.8	88.6
Oil	12.5	10.8	8.9	10.8	11.3	14.2	11.4

Source: *1997 Macroeconomic Review and Outlook*, Centre for Policy Analysis, Box 19010, Accra-North, Ghana.

In addition to the IMF-induced policy of floating the currency, a second factor that motivates this reaction from the business community is the increasing of domestic interest rates. As happened in Ghana, locally owned industries in these poorer countries simply collapse and release more adults into unemployment.

NGOs. Yet another factor adding to the inversions, confusion and counterproductivity in socio-economic management is the role of foreign NGOs alluded to earlier. Observers estimate that there must be more than 900 NGOs altogether in Ghana, and their number seems to be increasing rapidly. Of this number, about 100 are foreign NGOs. There is neither economy-wide monitoring nor coordination of the respective agenda and activities of these institutions. They simply do whatever pleases their foreign sponsors and themselves. In their own separate efforts, each of them carves out its own sub-macro-economic (i.e. micro-economic) sphere within its chosen location in the country for pursuing its own brand of experiments at socio-economic management. Whether their effectiveness can be confirmed or not, an increasing number of community leaders in Ghana now actively seek the support of foreign NGOs as solutions for their local problems. This reflects an unfortunate but pervasive situation called the 'culture of

dependency' in which people have lost their indigenous resourcefulness, self-confidence and self-esteem in tackling their own local problems. Therefore, these community leaders unwittingly invite recolonization of their local areas.

In this essay, we do not pursue the effects on the Ghanaian society of imported movies, video films, radio, TV programs and advertising, informatics (particularly the facilities available through the Internet), public entertainment and other creations of the electronics revolution and related media. These have made their own contributions toward compounding the inverted processes and socio-economic confusion in Ghana, as well as throughout the current 'Third World'.

Summary of the Effects of Policies of the Industrialized Countries

Under the conditions of a global economy, it seems that the combined activities of the IMF and the World Bank render these agencies the equivalent of a multinational corporation as far as they affect the socio-economic management of low-income, debt-servicing, underdeveloping countries. It is obvious that the total effect of the policies by the industrialized countries — supported by the IMF, World Bank and other institutions that they own or control — is to reinforce and to perpetuate inherited colonial-oriented economic structures in 'Third World' countries.¹⁵ This system perpetuates an international division of labor that emerged from imposed colonialism and is sustained currently by its invited version. As a result, low-income, debt-servicing countries are presently unable to develop appropriate local technologies or effectively to diversify their production structures so as to create more employment opportunities and to increase incomes for their populations. In effect, the following policies of the industrialized countries are currently the ones that are most directly related to low-income, debt-servicing underdeveloping countries:

1. The imports into the industrialized countries that would continue to be restricted include manufactured items, migrant labor and raw materials for which synthetic substitutes have been developed.
2. The technology that the 'Third World' can acquire is that which the industrialized countries have sanctioned, mostly channeled through 'foreign aid' programs.
3. Mainly for realizing commercial and related privileges, the industrialized countries keep tightening their domination over most other countries through the monopoly of decision-making in the United Nations Security Council and other fora, as well as the debt-bondage orchestrated through the counterproductive effects of 'foreign aid' programs.

THE COMPOSITE PRESENT PICTURE

The inherent holistic nature of the inherited local cultures in Ghana has been severely strained. When traditional value systems were functioning reasonably well, they provided answers to many questions and channels for solving various individual and family problems. There were reasonably cohesive moral codes of conduct that the populations of different societies applied in their relationships within their tribe, in their constant relations with other tribes, and even when they came into contact with foreigners.¹⁶ Weak as they are increasingly becoming, some of these cohesive features of indigenous socio-economic management will continue to have some influence for decades to come.

Meanwhile, regardless of their respective status in Ghanaian society, most citizens feel that many important aspects of their society are crumbling. Under the conditions of the emerging market-driven environment, all forms of theft, embezzlement by bankers and public officials, the persistent diversion of public vehicles and other resources for private ends, corruption, ritual murders for mystically increasing material wealth, all sorts of 'white collar' crime and dishonesty, have been increasing. Resigning themselves to fate and with the hope of getting a break in life, most of the population routinely patronizes more than 50 state-established lotteries and hundreds of lottery-related games used by various firms to sell their wares. Part of this increasingly pervasive fatalistic syndrome is exploited by a proliferation of Christian churches. Many are used by their operators as convenient channels for exploiting their respective congregations financially and in other ways. Meanwhile, material poverty is now endemic, deepening and widening to embrace many more people in the population. All these drastically adverse changes have occurred and are unfolding within the lifetime of the majority of the population.

What is most traumatic about the degenerating socio-economic conditions is that these have increased in speed and dimension within the past decade. In Ghana and in other low-income countries, it is tempting to rush to conclusions that the problem of treadmill and non-performing economies lies in curbing the rate of population growth.¹⁷ This arithmetic conclusion misses a very crucial point. The real, non-cosmetic solutions are socio-cultural and economic; the solution to impoverishment in a recolonized country is not numerical quotas to control offspring. Consider the fact that in materially advanced countries, economic prosperity preceded reductions in birth rates. Why is it that for Ghana and other low-income countries the process should be inverted? This is just one of many examples of *ad hoc* tinkering with imported solutions. *Ad hoc* approaches have repeatedly proven to be counterproductive in Ghana, just as in most low-income, debt-servicing countries.

Within the currently prevailing circumstances of the population in zero-sum and negative-sum paradigms, socio-economic conditions are likely to get worse. These are the ingredients that breed social revolts and revolutions. The solution to most of the problems in Ghana will come when its socio-economic managers eventually return to the basics. The essentials of these basics include instituting genuinely holistic, democratic, environmentally friendly and progressively self-reliant systems. The current strategies are no more productive than chasing mirages.

The type of capitalism which is now being pushed into underdeveloping countries is a system in which individuals relentlessly pursue private interests, profits and the accumulation of private property rights over increasing volumes of disposable wealth that can be measured in monetary terms. In theory, capitalism uses open markets where money, goods and services freely exchange with each other. However, there are hardly any such markets under the Western type of capitalism today, for the following reasons:

- a) Enormous disparities exist in the distribution of resources among the contestants.
- b) A prevalence of monopolies, (e.g. multinational corporations) mercantilism and cartels dominating international trade.
- c) Prevalent restrictions made by industrial countries that undermine various imports of goods and labor from 'Third World' countries.

These factors create serious disparities and destroy the possibility of a level playing field for all participants in the global market game. This socio-economic environment is highly

competitive or even predatory. The fittest, i.e. the wealthiest, survive. In the process, material wealth is consolidated in the possession of a decreasing proportion of the population, simultaneously more and more of the population is reduced into deepening levels of poverty. Even with the tiny example that Ghana represents, the proportion of the population that lives on or below the poverty line has increased from about 20 percent some 40 years ago to its present estimated level of about 60 percent.

The essence of nineteenth century mercantilism is that the state's power is used to support private enterprise for achieving the following goals:

- (1) to increase national wealth such as precious metals and money;
- (2) to achieve foreign trade surplus for the nation, boosting exports and using tariffs for restricting imports;
- (3) to foster national commercial interests;
- (4) to strengthen national military might; and
- (5) to establish colonies.

In contemporary times the 'colonial' status of poor countries arises from two reinforcing and mutually dependent factors. One of these is that the industrial countries have used foreign aid to get poor countries into debt bondage. The second is that the same industrial countries use the IMF and World Bank as convenient coordinating points for realizing their respective agendas. In terms of their operational effects, the conditions of 19th century mercantilism listed above continue to this day. The only difference is that the environment has now been rechristened as the 'new economic order' or the 'new international order.'

NOTES

1. In theory, the International Monetary Fund (IMF) is a cooperative institution, although some of its methods look as if it were a multilateral financing institution like the World Bank. Its assistance is short-term in nature, i.e. up to about three years for countries to repay loans it has made to them.

2. Resources that keep growing make positive additions to existing stocks. Hence any such situation is referred to as a 'positive-sum' game. Using the same logic, a 'zero-sum' game means that existing stocks of resources e.g. land, remain the same — neither growing nor decreasing. This means that when someone takes a portion e.g. three percent of a resource, then the remainder of contestants has the rest — that is, 70 percent — to share among themselves. Continuing with the same logic, a 'negative-sum' game means that the set of resources so described are diminishing. The fact that most citizens feel their conditions are getting worse and worse makes them have zero-sum and negative-sum perceptions which in turn condition their behavior — making them more acquisitive, for example. Under these conditions, it is obvious that the privileged few in the population will tend to keep grabbing more and more, given their felt sense of scarcity, while the underprivileged majority will have to contend with the diminishing residue.

3. An excellent review of the consensual, participatory and inclusive practices of democracy characteristic of traditional chieftaincy rule in pre-colonial Ghana can be found in Chapter IV of Kwame Gyekye's *Tradition and Modernity* (Oxford University Press, 1997).

4. The reasons for this preference for 'aid' rather than trade are elaborated in the author's *Useful Development Economics*, Chapters 8 and 9, ISBN 9964-980-50-7.

5. Mainly for purposes of disinformation, the term 'foreign aid' is used in this modern and fast-expanding industry to refer to loans and related resources from industrial countries to other countries located outside of Europe and North America. If Ghana gives a loan to the Sudan, or if Saudi Arabia gives a loan to the US, these are not referred to as 'foreign aid'.

6. Lest the significance of IMF directives seem overemphasized here, note that in 1994 Ghana owed 76 percent of its entire GNP to the World Bank for repayment of loans scheduled under IMF conditions; cf. Table I below.

7. One example out of thousands of covert agendas was reported by the NGO 'Friends of the Earth', in the exploitation of Ghana's timber. Apparently, a host of foreign and local firms benefiting from World Bank and British Government credits, plundered 250 square kilometers of Ghana's tropical forests, exported logs valued at US \$44.8 million, repatriated \$9.9 million and pocketed about \$34 million. This is documented in *Plunder in Ghana's Rainforest for Illegal Profit*, vols. 1 and 2, March 1992 (Friends of the Earth Ltd., 26-28 Underwood Street, London N1 7JQ).

8. Established to serve the interests of the industrialized countries, the 'London Club' deals with commercial debts owed by 'Third World' countries to commercial banks of industrialized countries. These debts are owed mainly by middle and high-income developing countries. The 'Paris Club' deals with debts owed to governments of the industrialized countries. These are referred to as bilateral debts; the type of debts that most low-income countries owe. Therefore each such country appears before the Paris Club, a cartel of lenders in which the IMF is also represented.

Some officials who have taken part in the negotiations at these Clubs have described them as "slippery terrain over which many Third World countries have continuously lost their footing." The "proceedings are a humiliation which should be avoided at all costs." For more information on foreign debt rescheduling exercises at these two clubs, cf. *Debt Re-structuring* (Geneva: United Nations Institute for Training and Research (UNITAR), 1992).

9. Ever since agrarian cultures began, the world has been dominated by private enterprise capitalism of one type or another. Private enterprise and the use of private initiatives are common attributes of all human collectives, regardless of their respective cultures. That which creates the differences that are historically evident in the uses of private initiative and capital is the effects of each within the different social structures and value systems comprising a distinct culture or sub-culture. Thus private enterprise capitalism as a mode of economic activity is not at all new. What *is* new is the Western European brand of it, which — for reasons of ideology, commercial advantage and one-sided self-interest — is being enforced through the IMF, the World Bank and various development financing institutions, embassies, security agencies, and NGOs that are maintained by the industrialized countries.

10. In January 1999 the cedi's value fell to 2,450 per US dollar, and in August 1999 it fell again to 2,800 per US dollar.

11. The interest rate for even a government-favored, subsidized manufacturer's loan to produce road-building materials and roofing tiles using chiefly local inputs, is currently 45 percent.

12. See *Useful Development Economics* by the author, op.cit.

13. Cf. K. Afreh-Nuamah, "Participatory Integrated Pest Management (IPM) Training Methodology for Ghana" in this volume.

14. Cf. W.A. Asomaning, "Gold: the link between ancient and modern Ghana" in this volume.

15. The industrialized countries strive to work as a cartel when dealing with 'Third World' countries in such matters as debt-servicing, trade and the transfer of certain types of technology even when this is exclusively between these less developed countries. For example when India launched its Insat-2A satellite in July 1992, the US immediately stopped various economic cooperation arrangements with that country. In August 1993 the US insisted, contrary to international law and in the absence of any war, that a Chinese ship heading for Iran could not proceed to its destination unless its cargo was inspected, to ensure that certain items of technology did not get into the hands of the Iranians. These are examples of how the material power of the wealthy G-10 nations is used to ensure that developing countries remain weak and backward technologically and, therefore, economically. J.A. Amuzu, "The Nuclear Option for Ghana" in this volume.

16. Cf. ". . . Traditional Ga and Dangme Attitudes to Change and Modernization" for samples of these moral codes of conduct in proverbs, by J.N. Kudadjie, in this volume.

17. Cf. J. Songsore, "Population growth and ecological degradation in Northern Ghana: The Complex Reality" in this volume.

CHAPTER V
INFORMALIZATION AND GHANAIAAN POLITICS
KWAME A. NINSIN

Recent literature on African politics has invented a few new concepts and paradigms among which is *informalization*. This concept gained currency following the democratization movement on the continent. But not until the 1980s did it make its debut into Africanist social-scientific literature through the published works of Naomi Chazan on Ghana (1983) and Janet MacGaffey on Zaire (1988; 1987).¹ MacGaffey had argued that the political and economic crises of Zaire had given birth to an indigenous capitalist class who were independent of the formal economy and the state. In her work on Ghana, Chazan also argued in a similar vein. According to her, the decline of the Ghanaian state and economy had liberated society from the shackles of commandist politics and economy, enabling it to regenerate itself in the form of independent, self-sufficient and autonomous centers of political, economic and social power and activity. Such interpretations of the African reality which postulate positive and liberating images of the social, political and economic life emerging from the current political and economic crisis are, to say the least, misleading and raise serious epistemological questions. Such discourses impose European experiences of social change onto the African reality — producing what are, in effect, rarefied theories of African politics.²

In this essay I try to reconceptualize *informalization*. I define it as a social process that produces normative disarray and marginalized or anomic behavior for a vast majority of members in the society. The sort of social change denoted as informalization entails the restructuring of access to — and ownership of — the material means for livelihood; but it is exclusionary for this vast majority of marginalized laborers and thereby compels them to contrive unorthodox methods of existence. I classify such persons as having been formalized, that is, removed from the formal structures and processes of the economy and politics. An informalized person lacks autonomy in making choices, because he or she lacks the material means to choose freely and with the confidence that his or her plans and goals are realizable. Life becomes a game of chance, largely unpredictable — a gamble. At the behavioral level, organization and rational planning become less valuable while tolerance for disorder and ‘*ad hoc*’ become virtues. Informalization manifests itself in a variety of structures: informal markets, informal banking and finance, informal organizations, informal politics — all operating at the periphery of the formal political and economic structures.

In what follows, I argue that informalization is the direct effect of a weak capitalist economy and state. The former is incapable of accumulating enough social wealth for distribution. And the latter is unable to ensure equitable access to, and enjoyment of, the little social wealth that is available. The political elite in charge of the state rather exploits the political weakness of the informalized sector to advance its own projects. I then show that the current process of globalization is merely another phase of a long historic movement of capital. It affects trends in informalization today just as its earlier phase did. Informalization is therefore not a recent social development. It derives its reality from the nature of the economy and the state, both of which are reflected in the kind of public policy that has evolved and been pursued in Ghana since colonial times. Finally I argue that both informalization and globalization are antithetical to the growth of a democratic culture and practice.

The main instrument of capitalist incorporation of modern Ghana into the emerging world economy was commercial capital. The Ghanaian economy that evolved from this incorporation was essentially a trading economy. Since its inception, this commercial economy has been incapable of transforming the technological base of the society into one that could create and sustain an industrial regime with the requisite technical and scientific capacity to create wealth and to distribute the wealth equitably and on a sustainable basis. Generally speaking, the effect of European commercial capital on Ghanaian social formation may be described as partial modernization, which led to a partial transformation of agricultural labor into an urban proletarian work force. From its inception, the labor force that emerged from the subsistence agricultural economy could find employment in commerce and only in the form of small informal trading — i.e. petty trading.³ By the 1930s, the colonial model of education together with a conservative development policy (Foster, 1965; Cox-George, 1973) had considerably expanded and diversified the ranks of these informal traders through the production of an illiterate, half-educated, unemployed and underpaid labor force, the members of which found survival only in informal economic activities — mainly as self-employed artisans, craftsmen, unskilled workers and as intermittent, part-time or seasonal workers.⁴ The economic developments of the 1960-1970 period, when the economy experienced its worst crisis ever, consolidated the segmentation of Ghana's labor market into formal sector workers, informal sector workers and intermittent workers.

Whether the economy and state are weak or not affects the respective rights of capital and of labor; it especially defines the character of the latter. During the country's brief experiment with state socialism under the government of the Convention People's Party (CPP), state power was deliberately employed to protect labor from the exploitive tendencies of capital with respect to wages, employment, health and education. When that government took office unemployment was high and still rising; wages were low, and access to education, health and services was limited to the privileged. As part of a broader socialist policy, the *Industrial Relations Act* of 1958 (as amended) was enacted to guarantee a minimum living wage for labor.⁵ In addition, other politically significant guarantees like availability and security of employment were provided for labor. The state embarked on a policy of providing employment through para-statal bodies, and established the Workers' Brigade as a strategic response to the raging unemployment crisis that was contributing to the impoverishment and cheapening of the labor force. *The Accelerated Development Plan for Education (1951)* and the *Education Act (1960)* made education accessible to all, free and compulsory. Despite a number of problems that plagued the implementation of these historic policies, they succeeded in expanding educational access at all levels of the education system.⁶

Post-Nkrumah governments have been unable to arrest the crisis of Ghana's weak capitalist economy; and so the economic crisis worsened. They have not used state power to pursue an accumulation model that would safeguard the rights of labor. Therefore the position and value of labor have deteriorated progressively during the post-Nkrumah period. Since 1966 labor has become progressively cheaper on the labor market. It has been subjected to growing unemployment, under-employment, declining real income, poor quality primary and secondary education, as well as loss of access to health-delivery services and tertiary education. Public policy has been guided by neo-classical economic theory, which regards any investment to improve the quality, position and value of labor as a cost to capital; hence, a dramatic impact has

been made by such policies as labor retrenchment, low wages, and limited access to education, social, and health services through either the withdrawal of subsidies or the increase in delivery charges. The severity of this impact is evident in the fact that between 1965 and the end of 1966, unemployment shot up by about 100 percent, and continued to increase by an average of 10 percent per annum from 1966 to 1968 (Merrit-Brown, 1972).

The neo-classical economic policies that led to such drastic cuts in employment and that induced other anti-labor effects were resumed in the 1980s, when the economic crisis became much worse. After almost ten years of structural adjustment policies, the social condition of the labor force could only be described as dehumanizing. The direct effect of adjustment policies on labor has been to induce widespread poverty and social decay. According to the *Ghana Living Standards Survey* published by the Ghana Statistical Service in 1995, about 31 percent of Ghanaians could be described as *poor or very poor*:

Absolute poverty is pervasive and not limited to a small minority. In this respect 34 percent of the people in the urban areas and another 28 percent in rural areas are found to be poor. . . . An examination of employment and . . . sources of income of Ghanaians shows that over 70 percent of the poor and the very poor are self-employed, predominantly in agricultural activities, and that about 40 percent of the total incomes of all Ghanaians is derived from agriculture. . . . Poverty is least among households where the principal economic earner is in formal employment, either in the private or public sector. (ISSER, 1996, 150)

The situation has been deteriorating progressively, especially with high population growth and massive increases in the labor force from year to year. In spite of the rather high mortality rate, the percentage of the country's labor force in the total population has remained high: between 53 percent and 55 percent since 1960. This has been so because the birth rate is still high; about 250,000 young people enter the labor market annually. At the same time, this swelling labor force tends to contain more poorly educated and more illiterate individuals. It suffers diminishing access to life-enhancing services like health, education, job opportunities and good income. The following data illustrate this. In 1991 the levels of educational attainment for Ghanaians over 15 years old were:

(i) Those who had never been to school: 40.3 percent, 29.1 percent male, and 49.8 percent female.

(ii) Those with less than a middle school certificate: 27.8 percent, 29.2 percent male, and 26.6 percent female.

(iii) Those with a middle school certificate: 26.0 percent, 32.6 percent male, and 20.3 percent female.

(iv) Those with a secondary-school certificate or higher: 6.0 percent, 9.1 percent male, & 3.3 percent female. (ISSER, 1996, 154)

The available evidence suggests that the prospects for improving this situation are very slim. Enrollment at all levels of the education ladder has not improved for some time now. Enrollment in primary schools, for example, stood at 1987-88: 44.3 percent; 1988-89: 44.8 percent; 1989-90: 45.1 percent; 1990-91: 45.0 percent; and 1991-92: 45.5 percent (*ibid.*, p. 154). Distance and

increasing cost also hinder the majority's access to basic health facilities. (*Ibid.*, pp. 162-169). This is the real face of poverty.

Rural and urban poverty have been increasing with rural poverty increasing at a faster rate. Sowah (1991, 25), for example, has estimated that rural poverty increased from 43.0 percent in 1970 to 54.0 percent in 1986. Rural poverty increased from an average of 40-45 percent in the late 1970s to 67-72 percent in the mid-1980s, compared to an average growth rate of 30-35 percent in the late 1970s, and to 40-45 percent in the mid-1980s for urban areas. Consequently, a large chunk of the country's growing labor force has tried to escape the scourge of rural poverty by migrating to the urban centers in a futile search for employment and social security. The movement has been either from rural to urban or from urban to urban areas. On the whole, rural-urban and urban-urban migration increased during the 1970s and 1980s. "Total movement into urban areas (rural-urban and urban-urban) increased from 28.5 percent in 1960 to 50.4 percent in 1984." Urban-urban migration increased by about 300 percent (ISSER, 1994, 144-145). Significantly, the number of urban settlements has also been growing even though a minority of them has attracted the greatest percentage of the total urban population. "[S]ettlements with populations of 5000 and over grew from 98 in 1960 to 135 in 1970 and to 189 in 1984. The urban proportion of the total population rose from 23 percent in 1960 to 28 percent in 1970 and to 32 percent in 1984." (ISSER, 1994, *ibid.*)

The large towns (with 50,000 and more population) — of which 13 existed 25 years ago — have increased their share of the total urban population from 38 percent in 1948 to 49 percent in 1984. Large towns now account for 14.86 percent of Ghana's total population (*ibid.*, pp. 145-146). The vast majority of the migrants to towns are illiterate, unskilled and poor; and employment in the formal sector of the economy is likely to evade them for the rest of their adult lives. Employment trends in the formal sector of the economy, as summarized in the following quotation, confirm this bleak assessment.

Formal sector employment, defined as the recorded employment in establishments employing five or more workers, grew steadily from 332,900 in 1960 to 483,500 in 1976; it remained stagnant between 1976 and 1979 and began to decline thereafter, reaching a low of 186,300 in 1991. That is, formal sector employment in 1991 was 44 percent less than it was in 1960, representing an average annual decrease of 1.4 percent — contrasting with the average annual growth rate of 2.3 percent in the labor force between 1960 and 1990. (ISSER, 1995, 138-139).

Even though this drastic decline in formal sector employment occurred in both the public and private sectors, it was worse in the latter. The reason for this appalling economic performance is well known: it is due to a weak and deformed economy prone to a cycle of deepening crisis.⁷ In fact, the Ghanaian economy is not just characterized by permanent structural crisis; it is also characterized by "employment failure in the formal sector" (ISSER, 1995, 141). Accordingly unemployment has become a permanent and dominant feature of it.

The unemployment is related to pervasive poverty and social malaise among those in the labor force who try to survive by securing employment in the formal sector of the economy. It is estimated that the informal sector not only became progressively more important in the economy after 1960; further, it increased its share of total employment from 25 percent in 1960 to 45 percent in 1990. In the urban areas it was more pervasive. Between 60-85 percent of all employment in urban settlements is in the informal sector (ISSER, 1995, 141-142). Given the

nature and dynamics of the economy past and present, this grave unemployment situation is not likely to improve.⁸

It is evident from the foregoing analyses that the structuring of Ghana's labor market into formal and informal components has accompanied economic change and crisis since colonial times. The process has gained momentum during the last 20 years, especially from 1970 to the present when growth in unemployment has shot up an average of 19 percent per annum (ISSER, 1995, 143). Furthermore, masses of unemployed people have continued to migrate to the towns and cities, thereby fueling the process of rapid urbanization, and exacerbating the unemployment and poverty crises in the dense population centers. These processes underpin what I have defined as informalization in Ghana today.

GLOBALIZATION AND INFORMALIZATION

Contemporary processes of informalization are closely linked to the worldwide movement and restructuring of capital that has been broadly denoted as 'globalization'. There is a tendency to perceive this process of internationalization of capital in narrow economic terms, referring to the integration of the world's financial structures and labor activities into a single global economic entity. The indices of globalization as economic integration are rapid increases in the volume of world trade, the transnational movement of capital and the rise of gigantic economic and financial conglomerates on a scale that is unprecedented.

There is much in the literature about globalization to suggest that this process is totally new. On the contrary, the global movement of capital has been an integral part of modern history, especially since the capitalist revolution. The process has been analyzed by such perceptive political economists as Lenin who described it as *Imperialism, The Last Stage of Capitalism*, and by many others who have followed him.⁹ Today capital is not just expanding but also restructuring the world economy into a single gigantic production and distribution system with a single command center. On the evidence of what happened in the nineteenth century and continued through the twentieth, one can predict that into the twenty-first century the impact of globalization on weaker economies is going to be negative.

Lenin called the global expansion of capital *imperialism*. If asked to name its current phase I would call it *neo-imperialism*— a more subtle and sophisticated form of imperialism than that which dominated in the nineteenth century. It no longer takes the form of direct seizure of foreign territories; but its essence is the same. The nation-state with a weaker economy loses its sovereignty (Murray, 1975) as a precondition that enables global capital to push through a range of policies that advance its own interests rather than those of national capital. The economic face of neo-imperialism today is the *structural adjustment program*. In countries that are implementing structural adjustment policies, the overriding presence and control of international capital has been administered by the International Monetary Fund (IMF) and the World Bank. In this regard, the Ghanaian experience has been well documented by a number of scholars including Libby (1976; 1976); Hutchful (1987); and Jonah (1981). But fourteen years of structural adjustment have only succeeded in intensifying the fragility of the economy, a causal connection that was identified as far back as the 1950s by Seers, Ross and Arthur Lewis.¹⁰ Structural adjustment has opened the economy further to international capitalist manipulation and penetration, and effectively subordinated it to the latter.

If we went by the indices of globalization,¹¹ we are likely to agree with van de Walle that the Ghanaian economy is either unintegrated or least integrated into the world economy. But as

Obi (1997) has pointed out in the case of Nigeria, even small foreign direct investments in areas such as mining and oil could have profound effects on the economy, state and society concerned. However, Kay made the important point several years ago: the most significant feature of foreign direct investments in African countries is not their size but their predominantly commercial character. It is equally important to note that in its neo-imperialist phase global capital has developed more subtle and sophisticated methods of economic control. For instance, debt has become a major weapon for controlling the political and economic decisions of African countries. The hidden imperative behind structural adjustment policies is debt, and the need to repay foreign loans or be ostracized from the world economy through the denial of access to new loans, aid, trade and investments. Other less obtrusive mechanisms include the spread of capital markets. By these and similar mechanisms the economies of countries such as Ghana are not just *controlled* from outside; they are integrated more deeply into the world economy. This is what O'Connor (1970) calls economic imperialism: It is "the economic domination of one region or country over another — specifically, the formal or informal control over local economic resources in a manner that is supremely advantageous to the metropolitan power, and disadvantageous to the local economy."

Whether foreign direct investment is of the commercial or industrial type, its driving force is the same: profit. An important means by which global capital ensures profit is cheap labor. This is achieved by insisting that an 'enabling environment' — socially and politically — be created. This requirement is among the 'conditionalities' that have been imposed on African governments that borrow. In the specific case of Ghana, ensuring an enabling environment has entailed the maintenance of an industrial regime that guarantees low wages for labor, that freezes employment and deliberately creates a huge army of unemployed people. It also has entailed suppression of workers' rights and the enforcement of policies that withdraw government subsidies for basic services like health and education. Such policies collectively ensure that the ranks of organized labor are depleted, weakened and rendered ineffectual.¹² Van de Walle recognized this fact when he claimed that ". . . globalization constrains [governments of weak economies] in a specific direction that has negative implications for labor. The logic of globalization forces governments to accommodate market forces in the name of 'national competitiveness', even if it means erosion of wages and labor standards" (van de Walle, 1997, p. 4).

In the developed capitalist countries globalization has the effect of restructuring economies in the direction of "the new service society," constructing a new basis for class formation and creating new jobs as well as career opportunities, new skills, and new classes.¹³ The reverse has been true in the Ghanaian case, as it is for other developing economies. Here globalization has created more unemployment and a massive informal sector of survival-economic activities. In the informal sector, labor has been systematically deskilled, is largely illiterate, lacks easy access to education, health and other life-enhancing services, is impoverished and *ghetto-ized*.

INFORMALIZATION: EMPOWERMENT OR DISEMPOWERMENT?

Does informalization liberate; does it empower the working class? Naomi Chazan (*op cit.*) has argued that the collapse of the state and the economy is the underlying cause of informalization of social life, which she regards as the crucible of freedom for society. According to this view, informalization frees society from the constraints of the authoritarian state and commandist economy, enabling groups and individuals to create independent political

and economic niches for self-actualization. This view has been the subject of critical debate in many Africanist circles.¹⁴ One important point has been missed by critics of this interpretation of Africa's political sociology. It is the implicit and mistaken suggestion that the people who enter the informal sector do so voluntarily. On the contrary, the informal sector is not a realm of freedom as argued by its apologists — not by any stretch of the imagination.¹⁵ Entry into the informal sector has been induced, if not compelled, by state policies. The state has pushed labor into the informal sector through structural adjustment policies pursued by various political elites, first in 1966-1969, and later from 1983 up to the present. These policies are aimed at protecting the interest of capital by weakening labor through means euphemistically called 'constructing an enabling environment'.

The cumulative effect of over ten years of economic structural adjustment may be described as the *decommodification of labor*. I define decommodification as the erosion of the value of labor as a commodity, that is, as an object of exchange in the capitalist market. Declining real wages, the total or partial withdrawal of subsidies, labor retrenchment and the explosion in unemployment levels, underemployment and the steep rise in poverty levels have become the hallmark of the industrial relations regime of this period of structural readjustment. And the effect on labor may be described as mass emiseration; the incapacity of organized labor to struggle in defense of the rights of labor in general and to guarantee the capacity for self-reproduction. The result has been the cheapening of labor as a commodity.

Wright (1993, 103-110) has argued that the class struggle is central to class formation and that the state plays a decisive role in its facilitation. This may be true in developed capitalist societies where the state is known to have intervened in order to increase the size of the labor force through such measures as the enclosure of agricultural land and immigration control (*ibid.*). More recently, in the 1940-1970 period, capitalist administrations have nourished the domestic labor force through various policies of the welfare state. In the periphery capitalist societies, on the other hand, the state rather intervenes to reduce the size of the labor force and in particular to decommodify it, especially when it is caught in a deep economic crisis — unless the state is guided by socialist ideas and norms as, for example, when state policies under the CPP government (Convention People's Party of Nkrumah) sought to protect labor against capital. The CPP's policies contrast sharply with those which have been pursued by successive governments since the fall of that regime, especially those pursued by the government of the Provisional National Defense Council (PNDC).

The decommodification of labor has negative consequences on the structural and organizational capacities of the working classes. Wright defines class capacities as the *social relations within a class* which to a greater or lesser extent unite the agents of that class into a class formation . . . [Class] capacities constitute the potential basis for the realization of class interests within the class struggle (italics are original; *op.cit.*, p. 98).

In Ghana the expansion of capitalist industry since independence has provided the working class with a most objective environment to organize for collective action. The economic crisis of the post-1966 period has adversely affected the growth of the industrial sector and diminished the capacity of the economy to create more jobs. The decline in job availability coupled with rampant labor retrenchment considerably undermined the structural capacity of labor as fewer people entered the formal labor market. Consequently, the collective worker-consciousness that emanates from the struggle to constitute a class in the labor process also became weaker. An increasing number of formal sector workers became engaged in alternative employment activities — either small-scale farming or petty trading — to supplement their incomes. But even

before the surge of the current economic crisis, Margaret Peil (1972) had found in her study, *The Ghanaian Factory Worker*, that the industrial worker was at the same time dependent on the land for subsistence. The deepening of the economic crisis during the 1970s and 1980s and the growing importance of the informal sector compounded the problem of the lower organizational capacity of labor.

In structural terms, informalization is a strategy by which the state seeks to control the formation of a fully fledged proletarian class and thereby weaken the capacities of labor to struggle against capital in defense of its own class interest. Informalization fractures labor by relocating it away from the labor process, where the struggle to form classes and to defend class interest is waged. These changes are not restricted to the working class. Similar processes of self-defeating dislocation are occurring among the petty-bourgeoisie that are increasingly confronted with under-employment, outright unemployment and with decline in real income (generated either by self-employment or by salaried employment in the private or public sectors). Like members of the working class, they also have had to engage in a wide range of income-generating activities to supplement their meager incomes, simply to survive.¹⁶ The informal sector labor's new position as a small property owner, however illusory, completely distorts its perception and understanding of the objective social situation of which it is now part. Informalized labor now stands in a "contradictory location" to the working class (Wright, *op. cit.*)¹⁷ and sees its interest neither as part of the interest of labor nor as part of the interest of the bourgeoisie — because it is now a self-employed, aspiring small capitalist class. The location of informalized labor is between the working class and the petty-bourgeoisie. This is why, on the one hand, it is extremely difficult to organize informal sector operators as part of any working class movement. On the other hand, petty-bourgeois political entrepreneurs have been extremely successful in organizing them in pursuit of their own political agenda.

The state's mediation in class structuring is crucial for the success of capital and state in a periphery capitalist economy like Ghana's. Two major victories are won. I have already alluded to the first of these: the decline in the structural and organizational capacities of the working class, which frees capital to pursue its mission of accumulation. The second is a victory in controlling 'informalized labor', which enables the ruling fraction of the political elite to wage a successful struggle against its political opponents. As I have argued above, informalized labor lacks the capacity to forge itself as an independent and self-conscious organization. Nor is it capable of acting as a class. To the same extent therefore I would argue that informal sector operators are incapable of functioning as "social capital" (Ottaway, 1997, 53) to facilitate the growth and consolidation of democratic politics. They lack both the organizational and structural capacities to engage as a body in democratic politics. Instead they become part of emerging populist movements and coalitions. This is what makes them strategic political material for Ghana's petty-bourgeoisie political elite.

INFORMALIZATION OF POLITICS

Informalized individuals and groups become strategic political material during periods when the state and economy are in severe crisis, when the legitimacy of government is being challenged, and when the need for government to locate itself among particular social forces becomes extremely important for survival. Two moments in Ghana's recent political history illustrate this: the two-year period 1977-1979, and 1983 to the present.

The 1977-1979 period was when the government of the National Redemption Council headed by Ignatius Kutu Acheampong came under relentless pressure from organized middle class professional groups, workers and students demanding liberal political reforms, because of the widespread view that the regime was mismanaging the economy and becoming increasingly undemocratic. That government's response to such pressures was to announce a program of returning the government to constitutional rule under a new system of governance that would include the participation of the military, police and civilians in a tripartite arrangement called "Union Government." To ensure the legitimacy of this novel proposal and ensure continuity for itself, the government undertook nationwide mobilization of support. A wide range of social forces, mainly from the lower middle classes, was mobilized for the government. Among the groups that sprang into existence and became actively engaged in the politics of the moment were: the Friends, the Organizers' Council, the Ghana Patriots' Association, the Ghana Youngsters Association, the General Farmers' Council, the Ghana Peace and Solidarity Council, the Rural Force, Ghana Registered Hoteliers and Inn-Keepers Association, the Indigenous Soap Manufacturers Association, and the National Council of Trade and Industry. The latter announced a nationwide membership of 25,000 at its inauguration in Kumasi on March 6, 1978. At the same ceremony this association's leadership pledged the support of the association to the military government of Acheampong. Clearly, most of such associations were neither based on occupation or profession; their formation was largely state-sponsored. Invariably, they were led by the more successful members of the 'portmanteau business executives' — a new breed of young businessmen who had no fixed address and carried their business particulars in a briefcases. A few examples will illustrate this development. The Chairman of the Ekumfi District Branch of the Organizers' Council was Kojo Boye, proprietor of Nkrabea Rest House in Mankessim. His deputy was J. K. Obuobi, a private businessman. Charles Saigoe, Managing Director of Messrs. Saigoe and Sons of Sekondi-Takoradi, was the Western Region Chairman of the Ghana Patriots Association; and Mary Laryea, President of the Market Women's Association was also the "Women's Leader of the Organizers' Council".¹⁸ It is noteworthy that when the Acheampong government fell and its Union Government scheme was aborted, all such mushroom organizations died with it.

The Rawlings military government of 1982-1992 indulged the same tactic when its legitimacy was put to the test. It should be recalled that after its seizure of power, the PNDC could retain and exercise power only with the support of organized labor, defense committees, radical organizations and students. When this social base finally disintegrated in 1994,¹⁹ the regime sought legitimacy in rural Ghana (Ninsin, 1991, 49-67; 1993, 100-113). When rural support proved inadequate, the government — in clever anticipation of electoral politics — turned to urban informal sector agents. In 1990 it sponsored the formation and registration of over 30 informal sector organizations.²⁰ The list of those organizations is both impressive and politically significant:

- Other Transport cooperatives
- Ghana National Chemical Sellers Association
- Ghana National Tailors and Dressmakers Association
- Musicians Union of Ghana
- Phonogram Producers Association
- National Tape Recorders Association
- National Drinking Bar Operators Association

National Garage Owners Association
Secondhand Spare-parts Dealers Association
Refrigeration and Air-Conditioning Workshop Owners Association
Chop Bar Keepers and Cooked Food Sellers Association
Hair Dressers Association of Ghana
Susus Collectors Association
Traditional Healers, Fetish Priests, Mallams and Drug
Peddlers Association
Sandcrete Block Manufacturers Association
Ghana Gold and Silver Smiths Association
Second Hand Clothes Dealers Association
Radio and Television Repairers Association
Ghana cooperative Distillers Association
Cornmill Owners Association
Licensed Diamond Dealers Association
Ghana Association of Private Sports Papers
Ashiaman Livestock Breeding and Traders Association
Butchers Association
Ghana Livestock and Meat Marketing Association
Video Operators Association
Day Care Centers Association
Akpateshie Distillers Association
Secondhand Car Dealers Association.

The range of informal sector associations named in this list is significant compared to what prevailed in 1977-1979. Firstly, it reveals the stupendous expansion of the informal sector in the wake of the deepening economic crisis since the 1970s and the considerable informalization of social life that has occurred since then. I quote at length an informed assessment of the unemployment situation in the country in the 1990s.

Between 1960 and 1990 the estimated labor force increased from 2,694,000 to 5,686,000 — an increase of 111 percent. During that period formal sector employment declined from 333,000 to 229,000, indicating an employment failure in the formal sector. The loss of about 145,000 jobs in the formal sector during the late 1980s led to a decline in the importance of the formal sector and an increase in the importance of informal sector jobs in the economy. It is estimated that in 1990 the share of the informal sector in total . . . employment and in urban employment was about 45 percent and 60-84 percent, respectively. (ISSER, 1994, n. 141)

In contrast with the situation in the 1970s, a much larger segment of the labor force had been informalized. Whereas the threat of informalization was then a lower middle class problem, it had become far more generalized by the 1990s. In such circumstances informal economic pursuit was bound to become the mainstay of social life for most people. Consequently many more informal sector associations could be mobilized to bring together a variety of operators in this realm of the economy. Secondly, the political crisis had deepened correlatively with the economic crisis; and so had the imperative to construct alternative bases of legitimation — hence

the dexterity and systematic way in which the PNDC organized such a myriad of urban informal sector operators.

The initial justification for mobilizing such an array of informal sector operators was to facilitate tax collection by the Internal Revenue Department. By 1991 the real motive for mobilizing the informal sector — politics — had become evident: the government would now use them as one of its instruments for controlling and directing the transition politics. Furthermore, unlike the *ad hoc* approach adopted by Acheampong in mobilizing this segment of society, the Rawlings regime ensured that such informal sector organizations were incorporated into the instruments of government in a more organized and formal way.²¹

THE DEMOCRATIC AGENDA

The viability of the democratic agenda hinges critically on the growth of autonomous centers of social power — what Robert Putman has described in his study of civic traditions in Italy as "social capital."²² The growth of such social power to reinforce democracy is not a function exclusively of the bourgeoisie. The emergence of the trade unions' movement has done a great deal to expand the frontiers of democracy in such key areas as the freedom of association and the right to vote. As Ottaway has pointed out (*ibid.*, p. 12), models of democracy other than the American (or bourgeoisie model) have proved efficacious. Indeed, mass nationwide organizations (different from small, dispersed and essentially bourgeois ones) have emerged under different circumstances to institutionalize democracy. The trade unions in Germany provide a good example.

However, the problem of building strong unions in contemporary Ghanaian politics is that the middle class — described in conventional literature on democratic politics as 'the champion of liberal ideology' — is small. More especially, in Ghana the middle class has been fragmented and weakened by the severe economic crisis that has afflicted the country since the end of the 1970s. This is why the middle class professional organizations, which had challenged the authoritarian regime headed by Acheampong (Ninsin, 1985, 52-60; Oquaye, 1980) were conspicuously absent during the struggle for democracy in the 1982-1992 period.²³ Similarly, the working class had been systematically fragmented, disorganized and weakened by the raging economic crisis and by deliberate state policies between 1979 and 1992. The working class was thus structurally and organizationally weakened by 1992 when the first parliamentary and presidential elections since 1979 were held.

In 1977-1979 the working class had been a leading force in the struggle for democracy. As a mark of its political strength, organized labor embarked on some of the most protracted strike actions and other forms of political struggle Ghana had ever known.²⁴ By 1979 the leadership of the workers' movement felt strong enough to form a political party alleged to represent the interest of workers. And in 1982-1984 the working class movement was able to guarantee the survival of the PNDC government in conjunction with other progressive forces. But by 1992 the working class had been so emaciated and weakened that it could not take a united and autonomous position in the politics of the country — neither in support of a particular political tendency nor in aspiration of controlling state power for itself. Even participation of the working class in the democratization process was sporadic, disorganized and feeble compared to its record of militant political action during the 1977-1978 period.²⁵ The working class had been atomized.

Poulantzas has argued that the atomization of the working class is a function of the capitalist state (quoted in Wright 1978, 241-243). The problem of the capitalist state in Ghana is that it does not even represent the interest of the weak bourgeoisie. Nor does it embody the ideological imperative of this class — liberal democracy. For example, under the PNDC and NDC governments of J.J. Rawlings, the state has endeavored to undermine the growth, unity and strength of the country's incipient bourgeoisie just as it has systematically disorganized and weakened the working class movement. The government used the state to strengthen non-bourgeois elements in Ghanaian society — informal sector elements comprising small property and penny capitalist factions within the lower middle class and labor force, respectively. The PNDC government's preferential treatment of the Ghana Private Road Transportation Union (GPRTU) set the tone for the corporatist relationship that was to emerge between the government and informal sector organizations. Regarding the GPRTU the government used state funds to import buses for the use of members of this organization. The GPRTU reciprocated by providing political support to the government, especially during elections (Ninsin, 1991, 54); they also aided in collecting taxes on behalf of the government (Gyimah-Boadi and Essuman-Johnson, 1993, 204). By the time of the 1992 parliamentary and presidential elections, the government had systematized this relationship with informal sector operators into a corporatist one. The government inaugurated the Council of Indigenous Business Associations (CIBA) as an umbrella organization for the 30 or so informal sector organizations, most of which had been organizationally sponsored by the government in 1990. At its inauguration on March 13, 1992 CIBA was alleged to have enlisted over one million members. A Deputy Minister for Mobilization, Peter Vaughn Williams (himself an informal sector operator) was its chairman. CIBA and other associations were employed nationwide in support of 1992 election campaign of Rawlings and his party, the National Democratic Congress (NDC).

Similar organizations were sponsored among the small property-owning fraction of the lower middle class to strengthen the social base of Rawlings and his party. Among the associations are the Eagle Club, Friends of the Progressive Decade, Rawlings Fan Club, Development Club, Development Union, Development Front, New Nation Club, and the Front Club. As Jonah points out (1998), many of these were small, localized organizations and did not have any national structure. More especially, members of the lower middle class, mostly aspiring young business executives who were struggling to make ends meet, were recruited specifically to build populist support for the government. Getting linked to the state was therefore a good political investment that promised to yield rich economic opportunities. Like their counterparts in the informal sector, the role of these young business aspirants in Ghanaian politics was to ensure the election of Rawlings and his party.²⁶ Given the fact emphasized repeatedly in this essay, that informalized groups lack the structural and organizational capacity (or class capacity) to function as social capital, their intervention in politics could not be in furtherance of the country's genuine democratic agenda.

In the view of van de Walle (1997, 8-9), globalization is in the interest of African countries, because the continent's integration into the world economy will enhance the growth of democratic politics. He adduces the following reasons: (i) Globalization promotes economic growth, which makes distributional politics possible. (ii) Economic growth reduces the external dependence of governments and makes them accountable to their electorate rather than to donor agencies and foreign powers. Such conclusions as these are based on a misunderstanding of the essence of globalization; that is, intrinsically, its inequality in the distribution of capital goods. Globalization inherently undermines the capacity of the nation-state and the welfare of citizens

in economically weaker societies. If the outcome of imperialism in backward societies was, among other consequences, the imposition of undemocratic political institutions and practices — such as indirect rule, then the political effect of neo-imperialism could not be any different.

As already argued, even though the Ghanaian economy is already an integral part of the global economy, the current economic and class restructuring resulting from its Structural Adjustment Program is quite different from South Korea's, for example. This is because the model of integration into the global economy is qualitatively different. Hence after 14 years of structural adjustment the Ghanaian economy has remained extroverted and internally incoherent. The economy's continued fragility is evidenced by: (a) the high inflationary pressures which characterize it, (b) its dependence on the export of gold and other primary commodities for revenue, (c) the great contribution made by agriculture — especially food agriculture — to inflationary and growth tendencies.

Surely, setting theoretical principles aside, it is clear that globalization has not generated growth in the Ghanaian economy. Nor has globalization increased the national wealth, restored sovereignty and accountability to the nation-state, thereby promoting the growth of democratic politics. As argued above globalization seems rather to have had the reverse effects. As current political trends imply, globalization has undermined the very possibility of these beneficial trends. Also the classes that globalization has been generating are weak. They lack the capacity to engage in independent political activity. They seem to value and cultivate dependency and clientelist relationships with the political elite, especially those in power at any particular period. This is an expression of their parochial ideology of survival. Because of these structural attributes they are easy and ready material for populist politics which, by its nature, is highly undemocratic.

NOTES

1. My encounter with Janet MacGaffey at an international conference at the Hebrew University of Jerusalem compelled me to start my own study into the phenomenon called *the informal sector* out of which emerged my book *The Informal Sector in Ghana's Political Economy* (Accra: Freedom Publications, 1991). The papers of the Jerusalem conference were published as *The Precarious Balance: State and Society in Africa* (Boulder: Westview Press, 1988). See also my own contribution as well as MacGaffey's in this collection.

2. For the latest criticism of these and other writers see Eyoh (1996).

3. See Brodie Cruickshank (1953) for a brief survey of this history of social change in Ghana.

4. The origins and dynamics of the informal sector is the subject of study in Ninsin (1991); see especially pp. 36-52.

5. See Yaw Graham (1989, 45-46) for the political import of this law.

6. For data on this revolutionary expansion in the country's education system, refer to Ninsin (1991, 46-48).

7. A number of excellent scholarly works have been devoted to analyzing the structure of the Ghanaian economy and its internal dynamics. A few of the classics on the nature of the Ghanaian economy are Ahmad (1970); Birmingham (1966); Krassowski (1974); and Szerewszeski (1965).

8. For additional data describing this bleak situation, refer to ISSER (*op. cit.*, pp. 135-148).

9. A few random instances are Andreff (1984); Hugo (1975); and Palliox (1977).

10. Dudley Seers and G. R. Ross, (1952) *Report on Financial and Physical Problems of Development in The Gold Coast* (Accra: Office of Government Statisticians). Sir Arthur Lewis (1953) wrote the *Report on Industrialization and The Gold Coast* (Accra: Government Printer).

11. See for example van de Walle (1997, 3-5) for a set of indices of globalization defined as economic integration.

12. Ensuring an enabling environment has also justified legislation that inhibits effective presidential campaigning by parties opposing the incumbent; cf. J. Osei, "Manipulation of the mass media in Ghana's recent political experience," in this volume.

13. Of course, the processes leading to such restructuring of economies and classes is far more complex. A number of factors, including the nature of the economy and whether or not the state is a welfare state, the type of education system, etc. determine the outcome. For analyses of these trends in post-industrial societies, see the collection of case-studies in Esping-Andersen (1993).

14. See for example Hutchful (1995, 52-76) for an assessment of the validity of the position of Chazan and others. Eyoh (1997) has subjected what he rightly regards as the pitfalls of the new political sociology for Africa to incisive criticism.

15. Analysts of this phenomenon in post-industrial societies also hold a similar view but on purely economic principles that have nothing to do with state-society relations. See for example Pahl (1981).

16. For a concise analysis of these processes of class restructuring, see Ninsin (1996, 32-39).

17. Wright sees the formation of contradictory locations as one of the outcomes of the class struggle. While I agree that the class struggle mediates class formation, generally the evidence from the Ghanaian experience suggests that the process is not entirely autonomous. The state aggressively intervenes to structure the outcome of the class struggle, of which informalization is only one peculiar outcome.

18. The information on the politics of this period is taken from (Ninsin, 1985, 50-52). For a detailed analysis of the politics of the 1977-79 period, refer to Chapter 4 of Ninsin (*ibid.*); also Oquae (1980).

19. For a critical appraisal of the politics of the PNDC's rise to power, and how it lost its original social base, see Yeebo (1991).

20. The list of informal sector organizations is from Ninsin (1991, 114-115).

21. The PNDC government used such organizations, among others, as the bases of representation in the Consultative Assembly (the body that wrote Ghana's 1992 Constitution). For a list of informal sector organizations which were designated by the government as electoral bodies with the right to send representatives to the Consultative Assembly, see *The Consultative Assembly: Register of Members* (Accra: 1991). Further, as will be discussed presently, these associations and others were reconstituted as the Council of Indigenous Business Associations (CIBA) and co-opted into Rawlings' new populist movement which piloted his regime back into power in the 1992 and 1996 elections.

22. Reported in Ottaway (1997, 6).

23. This point has been forcefully made in Ninsin (1998).

24. There is ample data on the strikes and other forms of political struggle embarked upon by various sections of organized labor during this period; cf. Ninsin (1985).

25. Ninsin (*ibid.*)

26. The other leading political parties also mobilized the support of associations formed by lower middle class and unemployed workers operating in the informal sector.

REFERENCES

- Ahmad, Naseem. (1970) *Deficit Financing, Inflation and Capital Formation; The Ghanaian Experience, 1960-1965*, Munich: Weltforum Verlag.
- Andreff, W. (1984) "The International Centralization of Capital and The Reordering of World Capitalism," *Capital and Class*, 22 Spring.
- Birmingham, D. et al. (1966) *A Study of Contemporary Ghana*, v.1, (The Ghana Economy), London: George Allen and Unwin.
- Chazan, Naomi. (1983) *An Anatomy of Ghanaian Politics: Managing Political Recession, 1969-1982*, Boulder: Westview Press.
- Cox-George, N. A. (1973) *Studies in Finance and Development The Gold Coast (Ghana) Experience*, London: Dobson Books.
- Cruikshank, Brodie. (1853) *Eighteen Years on the Gold Coast of Africa*, London: Hurst and Blackett.
- Esping-Andersen, G., ed. (1993) *Changing Classes: Stratification and Mobility in Post-Industrial Societies*, London: SAGE Publications.
- Eyoh, Dickson. (1996) "From Economic Crisis to Political Liberalization: Pitfalls of the New Political Sociology for Africa," *African Studies Review*, 39.3, December.
- Foster, Philip. (1965) *Education and Social Change in Ghana*, London: Routledge and Kegan Paul, 1965.
- Graham, Yao. "From GTP to Assene: Aspects of Industrial Working Class Struggles in Ghana" in Hansen and Ninsin (eds.) *infra*.
- Gyimah-Boadi, E. and Essuman-Johnson (1993) "The PNDC and Organized Labour: The Anatomy of Political Control" in *Ghana Under PNDC Rule*, E. Gyimah-Boadi (ed.) Dakar: CODESRIA Books.
- Hansen, E. and K. A. Ninsin, eds. (1989) *The State, Development and Politics in Ghana*, Dakar: CODESRIA Books.
- Hugo, Radice, ed. (1975) *International Firms and Modern Imperialism*, Harmondsworth: Penguin Books, 1975.
- Hutchful, Eboe. (1987) *The IMF and Ghana: The Confidential Record*, London: Zed Books.
- Institute of Statistical, Social and Economic Research (1994), *The State of The Ghanaian Economy in 1993*, Legon: ISSER.
- (1995) *The State of The Ghanaian Economy in 1994*, Legon: ISSER, 1995-1996.
- Jonah, Kwesi (1989) "Changing Relations Between the IMF and Governments of Ghana, 1960-1987" in Hansen and Ninsin, op. cit.
- (1998) "Political Parties and The Transition to Multi-Party Politics in Ghana" in *Ghana: Transition to Democracy*, K. A. Ninsin (ed.) Dakar: CODESRIA Books.
- Krassowski, A. (1974) *Development and The Debt Trap*, London: Croom Helm.
- Libby, Ronald T. (1976) "The International Monetary Fund's 'Rehabilitation' of Ghana, 1966-69," *The African Review*, 6.4.
- (1976) "External Coaptation of a Less Developed Country's Policy-Making: The Case of Ghana, 1969-1972" *World Politics*, 29. 1, October.
- MacGaffey, Janet. (1988) *Entrepreneurs and Parasites: The Struggle for Indigenous Capitalism in Zaire*, Cambridge University Press.

Merritt-Brown, T. (1972) "Macro-economic Data of Ghana"(Pt.I) *The Economic Bulletin of Ghana 2.1* (2ndSeries).

Murray, Robin. (1975) "The internationalization of capital and the nation-state" in Hugo (ed.), *op. cit.*

Ninsin, K. A. (1985) *Political Struggles in Ghana, 1967-1981*, Accra: Tornado Publications.

----- (1991) *The Informal Sector in Ghana's Political Economy*, Accra: Freedom Publications.

----- (1991) "The PNDC and The Problem of Legitimacy" in *Ghana: The Political Economy of Recovery*, Don Rothchild (ed.) Boulder, Colorado: Lynne Rienner.

----- (1993) "Strategies of Mobilization Under The PNDC Government" in *Ghana Under PNDC Rule*, E. Gyimah-Boadi (ed.) Dakar: CODESRIA Books.

----- (1996) "Ghana: Beyond Crisis and Adjustment," *Africa Development*, vol. XXI, Nos. 2 and 3.

----- (1998) "Civic Associations and the Transition to Democracy," in Ninsin (ed.) *Ghana: Transition to Democracy*, Dakar: CODESRIA.

CHAPTER VI

MANIPULATION OF THE MASS MEDIA IN GHANA'S RECENT POLITICAL EXPERIENCE

JOSEPH OSEI

INTRODUCTION

Theoretically, two or more values may be said to be in conflict when they cannot be sustained simultaneously on the grounds of logical or moral incompatibility. Given the context of increasing cultural diversity and value pluralism in Ghana there exists the possibility of multiple conflicts of values. Since value conflicts carry a potential threat to the stability of the society overall and to the well-being of the people, there is a need to analyze such conflicts of values in order to control them.

In this essay I draw attention to a phenomenal conflict that has emerged between the practice of democracy and the use of the mass media in Ghana. I present evidence that indicates this conflict is the result of political manipulation of the mass media by the incumbent government, at least since the beginning of this decade. I argue that the most rational solution to this conflict, which threatens the democratic process as well as the peace and well-being of the nation, cannot be any *laissez faire* or *ad hoc* policy. Rather what is required is a set of carefully considered principles of intervention. The approach I suggest can be applied beyond the current situation in Ghana, for resolving this and similar types of value conflict within other emerging democracies of Africa. As a preparation for demonstrating current political use of the mass media in Ghana, a logical starting point is a general review of the nature of political manipulation as a moral phenomenon.

POLITICAL MANIPULATION

In her critical examination of the practice of commercial manipulation, Claudia Mills has identified three conceptions of 'manipulation' pertinent for a philosophical analysis of political and other forms of manipulation.

Manipulation as covert persuasion: According to Mills, any attempt at persuasion is in some way covert when the person doing the persuading wants to hide his intention from its targets. If the primary reason for hiding an intention is morally evil, the act of persuasion is a form of manipulation and should be strongly condemned as unjustifiable deception or dishonesty.

Manipulation as appeal to emotion: Any attempt to persuade someone to believe or to do something that does not appeal to reason, but rather to the targets' emotions constitutes an act of manipulation. While deception or lying may not be involved, this form is comparably reprehensible since it dehumanizes the targets involved by failing to treat them as rational agents.

Manipulation as playing on a weakness: A third form of manipulation proposed by Mills is equally pervasive and morally repugnant. The manipulator exploits some specific emotional vulnerability of the target, e.g. fear, lust, greed or loneliness. The moral evil here lies in how the manipulator dehumanizes and takes unjustifiable advantage of the target. Most readers are undoubtedly familiar with commercial and religious manipulation in the advertising and activities of American religious cult founders and fanatics (e.g. Jim Jones, Jim Baker, Jimmy

Swaggart and David Creche). What may not be so obvious is the use of similar strategies in the political arena to gain undue political advantage.

The Nature of Political Manipulation

Political manipulation is no less morally reprehensible given the deception, the lies, the dishonesty, the dehumanization and the abuse of human rights involved. A paradigm case of political manipulation can be observed in African dictatorships that are in the process of metamorphosing into instant democracies. In order to entrench themselves in power during such transitions, some governments try to prevent the emergence of media pluralism. They suppress opposing political views by maintaining a monopoly on television, radio broadcasting and journalism. The media is the best means of mind control, as communication experts (such as Cantril and Allport) have observed over decades:

When a million or more people hear or watch the same arguments, when their attention is held to the same stimuli, it is psychologically inevitable that they will acquire in some degree common interests, common tastes and common attitudes . . . 1

Is it correct to accuse the present government of Ghana as guilty of political manipulation through the media? Is there consequently a conflict between the dominant use of modern communication technology and the practice of democracy in Ghana today? I wish to present arguments in defense of the claim that both the 1992 and the 1996 elections² were unduly influenced by political manipulation of the incumbent government, making the election campaigns significantly unfair. And as a result, there is now a conflict between democracy and the technological power of the mass media, which can only be ignored at the peril of the fragile process of democratization in the country.

Political Manipulation through Constitutional Constraints

The provisions for civil rights of the 1992 Ghana constitution include Article 162(3) that abolishes any restrictions on radio broadcasting. Yet contrary to this legislation, the government — backed by the power of the Supreme Military Council (SMC) decree 71 — recognizes only the Frequency Board for the approval and licensing of broadcasting facilities, including the allocation of frequency bands, to both private and commercial radio operators in the country. There is an evident inconsistency between the constitutional provision for removing government control of the media and the SMC decree 71. According to Dr. Anthony Bonnah Koomson (media critic on the faculty of the School of Communication of the University of Ghana), this contradiction exists simply because "the Frequency Board operates under the thumb of the president."³

Another constitutional paradox is evident in the government's drafting of a law by which a radio frequency is allocated to a minister of state. This is anomalous since the 1992 Constitution already provides for the establishment of a Media Commission to fulfil this very function as well as other regulatory protocols designed to preserve freedom of the press.⁴ Such inconsistencies and redundancies cannot be resolved without constitutional changes initiated by the government. Is the government prepared to make these necessary changes? Not even the government-

appointed chairman of the National Media Commission (for the period), Professor Kofi Kumado — a constitutional lawyer — could express optimism about this:

Government — this government at least — on current evidence, is not prepared to let go [of] its control by sophistry. The key words in this new control structure are ‘communications’, ‘communications system’, ‘communications station’ etc. But the real key of this new control system [of the government] is the control over radio frequencies.⁵

When closing his seminar address, Kumado remarked sadly:

It is for me an important mark of the failure of our democratic experiment so far, that 22 months into the Fourth Republic we do not have even one independent radio station, because of government control of the management of the radio spectrum. ⁶

Political Manipulation through the Control of Broadcasting

In October 1994 the government published the National Communications Authority Bill, a draft ostensibly intended to provide a legal and administrative framework for private broadcasting in the country. It was hailed by the government’s sympathizers as a bold initiative to dissolve the existing contradictions and legislative constraints on the media. Upon closer examination, however, it could be described, in the words of Dr. Koomson as "a threat to broadcasting pluralism." Consequently, several amendments were made to the draft before Parliament passed the bill. But when the president realized that in the end the amendments would diminish government control of the media beyond a certain threshold, he refused to sign the bill into law.

Feeling betrayed and frustrated as chairman of the Ghana Media Commission, whose duties were being usurped, Professor Kumado vented disappointment with the government’s suspicious strategies:

How does the Media Commission discharge its task of insulating the media from government control, promot[ing] and ensur[ing] the freedom and independence of the media for mass communication or information as provided by article 167(a) of the Constitution, when a law is drafted giving the management of the most important means of broadcasting — namely, the allocation of radio frequencies — to a Minister of State?⁷

Forty-eight hours after the 1995 Conference on ‘Prospects for Private Broadcasting’ had adjourned, the first private independent station, "Radio Eye" began broadcasting, presuming upon the constitutional right to do so.

"Radio Eye" was owned, along with other citizens, by Dr. Wireko Brobby who had been criticizing the government openly for its monopoly of radio frequencies. Five weeks later another private radio station emerged on the airwaves of Accra. Both stations were physically destroyed by government forces within the following two weeks. Radio Eye’s transmitter was removed, closing its operation. According to a subsequent court hearing, the removal had been illegal and an order was issued for its return. In defiance of the court order, the transmitter was never replaced. A second civil complaint was filed objecting to this breach of constitutional rights, but the case was subsequently shelved and never re-opened. In the more politically sensitive case of

Radio FM, Legon, it is on record that "the University authorities were arm-twisted to shut it down themselves."⁸ The station was not effectively re-opened until the national election of 1996 was over. The station is now known as "Radio Univers" (sic). However, two radio stations were left alone to operate ("Joy FM" and "Radio Gold") just prior to and throughout the election proceedings. Judging from the ethnic profile of their personnel, their programming, commercial bias and their ideological slant, it would be misleading to regard either of these stations as 'politically independent' in the sense of being a critically objective mouthpiece for voices opposing government policy. But even granted they were unbiased stations, the fact remains that only the State Radio has the means to reach the masses in the rural areas throughout the country. Hence it cannot be denied that the government has effectively retained its monopoly over broadcasting throughout the country, particularly in the rural areas where the vast majority of the people live and vote.

To a large extent, the situation with televised transmission of information is not much different. In the months leading to the elections both in 1992 and 1996 there was a great deal of social and political pressure on the government to permit the opening of television stations other than the state-owned "Ghana Television" (GTV). But the government remained adamantly unresponsive to such public appeals until the elections were over.⁹ Two years after the 1996 election, one more station "TV3" is operating within the Accra metropolis. Only the privileged elite can access the decoders or antenna equipment required for viewing more TV stations. All the same, despite the persistent appeals from the Christian community for their own TV and radio stations for religious broadcasting long before and well after the elections, the government continues to deny this right of private citizens. Ghana Television of the Ghana Broadcasting Corporation (GBC) remains the overwhelmingly dominant image in the television-viewing public eye. As Mr. Ghartey-Tagoe, a veteran broadcaster and communications professor, puts it: "Of course GBC, as a subverted public service, must also be in harmony with the tune that is called" [by government].¹⁰

Political Manipulation through State-owned Newspapers

Most public broadcasters will admit only in private conversation that political manipulation affects their professional decisions. But the two most widely distributed (state-owned) newspapers, *The Daily Graphic* and *Ghanaian Times* — as well as their weekend editions, *Sunday Mirror* and *The Weekly Spectator* — make no secret about the ideological determination of their content. Violating its own long-established policy not to run any form of advertising on its front page, *The Daily Graphic* published a front page color advertisement just prior to election day. The picture featured an arrow pinpointing the way to vote specifically for the incumbent NDC party (National Democratic Congress) and thus for the incumbent presidential candidate. This sort of pictorially graphic display makes a significant impression on a population wherein the average newspaper-holder reads, in the literal sense, only superficially.

Another example of political manipulation is evident in the way *The Daily Graphic* dismissed the presidential candidate of the major opposition party (New Patriot Party (NPP)) as not being "leadership material." The paper argued that since Kuffour — a seasoned politician and lawyer — could not manage the football club, Kumasi Asante Kotoko, well enough to win any African trophies during the four years of his chairmanship, he could not lead the nation as president, and should consequently be rejected by voters.¹¹ The dissimilarity here between administrating a football team and a nation must be obvious. Yet *The Daily*

Graphic published this propaganda clearly on behalf of the incumbent candidate and his ruling party.

Speaking in defense of their pro-government bias, one of the editors of *The Graphic* argued that since the private newspapers (in particular *The Free Press*, *The Ghanaian Chronicle* and *The Statesman*) were anti-government in their editorial policy, the state-owned newspapers had no option but to write in favor of the government. Moreover, he argued, since the NDC candidate was none other than the current president himself, every story about him was automatically headline news; and headline news is what every newspaper strives to publish. Such remarks suggest that the depth of political indoctrination and manipulation in the country is so great that even professional journalists cannot distinguish between a state-owned newspaper and a pro-government newspaper, a distinction particularly crucial to sustain for the sake of democratic process during an election year. Yet in a country under economic siege, the issue devolves to a matter of crude economics for some working journalists who state their position rhetorically: 'Where will money to feed my children come from if I am sacked for not singing the master's tune?'

When the NPP 1996 presidential candidate Mr. J.A. Kuffour complained that he could not work with such irresponsible journalists if he won the election, he was widely criticized for issuing a threat. Yet no one concerned denied the allegation that a lively pro-government bias was at work in the press corps. George Sydney Abugri, a columnist for *The Graphic* (and recipient of the Journalist of the Year award in 1998) admitted that the media is "politically polarized" and that:

There are even journalists within the state-owned media who sometimes complain that the media's coverage of political parties and their activities could do with more equitable, balanced, and fair dispensation.¹²

Such blatant pro-government bias did not escape the attention of the U.S.-based organization, the National Democratic Institute for International Affairs (NDI), that monitored the last general election in December 1996. In order to minimize such a bias the NDI recommended, *inter alia*, that The National Media Commission should ensure that the state newspapers provide accurate and balanced news coverage through the entire campaign period.¹³

The degree of existing political manipulation may surprise someone who regards Ghana's democratic process as the ideal showcase for Africa, just as the IMF claims it to be. Recall that the Rawlings administration was a professed Marxist-socialist government forced by famine and poverty to accept the externally imposed IMF/World Bank mandate to shift from political authoritarianism towards political democracy and economic liberalization. The Head of the School of Communications at the University of Ghana, Mr. Karikari explains:

An authoritarian regime that is compelled by popular and external demands to transformer mode of rule the structural means) to constrain democratic structures and expression, particularly where these are hardly tried and tested.¹⁴

MANIPULATION OF RELIGION

Political Manipulation of Religion through the Media

As J.S. Mbiti long ago observed, "the African not only lives in a 'religious universe,' but is also notoriously religious."¹⁵ If any African country could claim exception to this general orientation toward religion, it certainly would not be Ghana, where almost everyone is associated with one religious tradition or another. According to the 1992 survey of the Statistical Service of Ghana, Christians constitute 64 percent of the population while Islam constitutes 14 percent, and African Traditional Religion and others 22 percent.¹⁶ According to the latest survey of Professor Max Assimeng, former Head of Sociology at the University of Ghana, there are at least 3,000 religious organizations in Ghana.¹⁷ whose total population does not exceed Greater Metropolitan New York.

The fact that religion may be used as an instrument of political manipulation follows from the social psychology of religion. Recall Plato's recommendations in the Republic¹⁸ for the use of religion as a means of moral training and civic discipline. And recall Marx's famous posit that 'religion is the opium of the masses. . . [And] an instrument for the oppression of the masses.' Given the orthodox Marxist view of religion, one might wonder why Marxists professing to spearhead a conscientized socialist revolution in Ghana should have exploited religion for immediate political gains in the ways evidenced by the following historical record.¹⁹

Dr. Kwame Nkrumah, the first president of Ghana and a professed Marxist-socialist, consistently attacked western Christian missions and churches for being instruments of colonial and neo-colonial exploitation.²⁰ Yet he also manipulated the religious fervor of Ghanaians by attributing to himself divine attributes (e.g. immortality) and titles such as *Osagyefo* meaning 'The Saviour' or 'Messiah'. He claimed to have introduced to Ghana a new ideological synthesis of the religious traditions of African Traditional Religion, Islam and western Christianity, called 'philosophical consciencism' or 'Nkrumahism'.²¹ Rawlings — who claims to be continuing from where Nkrumah left off — employed this synthesis of all three traditions to retain power in the following ways.

Manipulation of the Christian Religion through the Media

President Rawlings caused a national media sensation in early 1992 that had profound repercussions for both the subsequent 1992 and 1996 elections. The episode involved his visiting a Charismatic Church in Accra, and weeping in regret and repentance for the blood shed as well as for all the atrocities associated with the June 4 uprising and revolution which he led, asking for a prayer of forgiveness.²²

The political dividend for this singular, ostensibly penitent action was simply overwhelming. Many Christians with Pentecostal and Charismatic orientations felt honored and validated by the President's choice to make his confession within their sector rather than in a mainstream denominational church. Consequently the majority of Charismatics and Pentecostals have openly declared their support for Rawlings and for his political party. Several Charismatic songs were modified to reflect their profound respect and support for him. Long after re-election for a third term, banners continue to appear around the city proclaiming that Rawlings is "anointed." A dramatic example of what Nelson Goodman²³ calls the creative process of 'deletion and supplementation' was manifest in such song adaptations as "Wo ke Yesu baya . . ." in which the name 'Jesus' is deleted and replaced with 'J.J.' (abbreviation for Rawlings' Christian names Jerry John). Literally translated from the indigenous Ga language, the lyrics mean, "We do not know any one but J.J. (in lieu of Jesus), and we will go with him alone." A second example is the popular Akan Charismatic song, "Yesu bae a ode tumi reye adwuma" adapted to A.J.J. bae a ode

tumi reyo adwuma. This translates into English as, "When J.J. [instead of Jesus] came, he began working with power."

Reverend Dr. A.A. Akrong, a theologian of the African Studies Institute, University of Ghana, describes such political strategies as playing on the "power paradigm" within the Charismatic movement in Ghana. The NDC chose as their main campaign song the theme of the popular Christian hymn, "Onward Christian Soldiers" with emphasis on the refrain, "From victory onto victory his army he shall lead."²⁴ One could hardly think of a more perfect fit since the new J.J. or "Junior Jesus" was indeed a military soldier when he seized power initially in 1979 and again in 1981 via *coups d'état*. So he is regarded now as a Christian soldier calling on fellow Christian soldiers to join the Christian army for another battle and victory in 1996 after his democratic electoral victory in 1992. For some believers, Rawlings is not just another follower of Jesus Christ, but indeed the new messiah to be followed for victory over their political and socio-economic enemies.

It is difficult to overlook the deception and manipulation apparent in Rawlings' purported penitence concerning atrocities committed in 1979, if one juxtaposes this public expression of regret with his recurrent public speeches celebrating the great sacrifices and heroism exhibited during the June 4 1979 Revolution. These occasions of self-congratulation do not exclude the extra-judicial killings for which he is held responsible in that year.

The leaders and congregations of mainstream churches were caught fighting over a theological issue thrown at them by Rawlings, which succeeded in functioning as a decoy just a few months preceding the 1992 elections. A heated national controversy began with Rawlings' public declaration, "I don't fear God, I love him." The media, especially the opposition papers, picked on this and interpreted it to mean that Rawlings was claiming that he feared no one, not even God. Indeed, it was in his interest that the church leaders remain preoccupied with a diversionary and divisive theological dispute, since they had been voicing a substantive 'surrogate opposition' to government's extra-judicial policies prior to the founding of the opposition parties. The pro-government state media kept the issue so much alive that Dr. Dovlo described "the country [as] transformed into a theological forum to debate 'the fear of God' and 'the love of God.'"²⁵

When he realized the political pay-off from such controversial theological statements for his re-election campaign, the president subsequently intensified their use. The Chronicle records that the president deployed no less than six of such controversial but divisive and diverting theological 'dog-bones', each of which was featured prominently by the media:

- Claiming that he did not fear God.
- Mocking Jesus for not assembling an army like Mohammed did to fight his enemies.
- Claiming that God is not democratic.
- Expressing amusement that Christians in Ghana prayed to God for a change of government in 1992 but God had not listened to them.
- Being very emphatic that Christ exudes violence by driving traders out of the temple.
- Chiding Ghanaians for turning the other cheek.²⁶

In the 1992 and 1996 campaign periods, the mainstream churches collaborated with some of the opposition newspapers to project the images of NPP presidential candidates Professor Adu Boahene and Mr. Kuffour (in 1992 and 1996 respectively) as "God-fearing people." But eventually this provoked anxiety, given the interpretation that their antagonist was explicitly not

God-fearing; for then no one could predict what Rawlings might do in case he lost the election. And so in a pragmatic spirit of maintaining safety precautions, oppositional rhetoric focussed on advocating free, fair and especially peaceful election.²⁷

The president used yet another manipulative strategy in the form of ‘political prophecies’ through the state media. Here are just two examples: An Ewe Catholic priest from the president’s natal Volta Region, preaching a few weeks before elections in the leading Roman Catholic Cathedral of Accra, blatantly campaigned for the incumbent when he declared that God had sent a messiah to deliver the people of Ghana from all their hardships, whose name was President Jerry John Rawlings — Rawlings was then shown by the government-controlled GTV to be seated in the front pew. Further, the GTV featured on prime-time an aged founder of an independent church in the Central Region, who showered praises on President Rawlings and then prophesied that God was going to make sure Rawlings would win the election once again. That was televised just two days before the elections.

Meanwhile preachers from the mainstream churches who criticized either the government or the media’s biased coverage were openly condemned through the state media for diverting from gospel preaching and for meddling in politics. Most Christians and leaders of the mainstream churches were unhappy with this blatant manipulation of the pious sensibilities of Ghanaians. Although no one can tell for sure how these Christians finally voted, it was evident in their near boycott of the 1992 and 1996 post-election Thanksgiving services that they were unwilling to associate themselves with the victory of this so-called political messiah, the Junior Jesus for Ghana. Yet the GTV was used once again to portray the Thanksgiving services as spontaneous events organized by all Christian churches to honor Rawlings’ victory not only in Accra but throughout all the regional capitals.

The Manipulation of Islam through the Mass Media

Islam, the second most popular religious tradition in Ghana, was also manipulated through the state media. The President and the NDC government used the media to create the impression that the President was indeed a friend of Islam and would never disappoint the mullahs. First was the passing of a bill during an election year that renders two Islamic holy celebrations official and legally recognized holidays. Sustained debate was publicized concerning the passing of the bill, which was presented in the media finally as a personal gift from the president to the Islamic community.

Another major sequence of media events calculated to portray the president as a patron of Islam was the creation of a national body to facilitate the pilgrimage to Mecca in 1996, an election year. Another public relations event was the Islamic Peace Sacrifice and Thanksgiving Service at the Central Mosque in Accra, marking the end of local conflicts in Northern Ghana — a predominantly Moslem region of the country — although the hostilities had ceased two years earlier. Consequently frequent contingents of national and local Islamic organizations were repeatedly televised, trooping in and out of the president’s office on missions of consultation and gratitude for his unusual interest and support for the Moslem community. These visits invariably occasioned the president’s public reminder to provide reciprocal support in the form of votes for his re-election.

Another significant example of political manipulation of Islam was the choice of a slogan for an auxiliary political party that supported the president, the Democratic People’s Party (DPP): its motto was the Takbeer of Islam — "Allah ho’ Akbar" (God is great). This motto

carries unequivocally religious connotations insofar as it is an excerpt from the Koran commonly repeated at the beginning of prayers. Yet by virtue of its Anti-discrimination Act, the Constitution forbids the formation of political parties along religious and ethnic or regional lines. So one is left wondering why the Electoral Commission permitted the slogan as the official motto of a registered political party.

Manipulation of African Traditional Religion through the Media

In what follows, I present events associated with traditional African religious beliefs phenomenologically; there is no ontological commitment carried by their description, concerning the existence or non-existence of pantheistic gods and their alleged supernatural powers. President Rawlings is by no means the first to have introduced African Traditional beliefs into national political rhetoric in Ghana, but he is certainly the one to have manipulated this doctrine the most in serving his own political advantage. African Traditional Religion has been enjoying a revival under the Rawlings administration, chiefly because of the prominence given to it at televised national public functions. Although Christians and Moslems are often invited to offer prayers at some of these functions, the pouring of libation remains constant and is sometimes the only form of prayer solicited by Rawlings' protocol. Such was the case when President Clinton visited Ghana and enjoyed his memorable welcome, or *Akwaaba*. Although he knew President Clinton was a Christian, the protocol ignored Christian representatives and called only a Traditionalist to offer a libation (a drink offering in which the gods and ancestors are invoked to mediate between the auspicious earthly proceedings and the Supreme Being).

The president professes Catholicism as his personal faith. Yet he is also on record as challenging anyone who is lying to go with him to swear before the powerful river god in Ashanti, *Antoa Nyamaa*. It is a precept of Ashanti traditional religious doctrine that anyone who blatantly tells falsehoods before this river god will be killed instantly by supernatural forces.

The most pervasive way in which the president has identified himself as a patron of Traditional Religion is through his association with the country's traditional chiefs, who are both political and religious heads of their respective communities. A few weeks before the elections, the president called upon most of the paramount chiefs in the country and attended their festivals and durbars; all of these visits were great media events, occupying many minutes of newstime on television and on the front pages of the state-owned dailies. In response, most of these chiefs pledged their personal allegiance. Out of keeping with the protocols of traditional consensual and participatory democratic process, these chiefs also pledged the allegiance of their sub-chiefs and peoples, and then poured a libation asking the gods and ancestors to give Rawlings and the NDC political victory over their enemies. Since the chiefs are custodians of the land and since they are the ceremonial grandfathers and grandmothers of the nation, one would expect that on constitutional or moral grounds they should play a neutral role in the major electoral race of a multi-party democracy. But this was not the posture assumed by most of the chiefs and queens whose support the president solicited. President Rawlings is the first head of state since independence to make an elaborate, highly publicized gesture of acknowledging these traditional rulers through the creation of a National House of Chiefs within the central government. Chiefs are also invited to express advice in the Ministry for Presidential Affairs. Hence the expression of their partisan allegiance to the ruling party can well be understood. But it cannot be morally justified, since such selective allegiance is blatantly unconstitutional and discriminates against opposing political parties.

The ruling party further monopolized the media for the sole purpose of campaigning when the first lady toured different parts of the country, attending traditional festivals, funerals and project sites. All such media opportunities portrayed the presidential couple as patrons of the traditional religion and cultural practices of different regions of the country.

Another important medium for this type of public manipulation is to engage in religious performative acts, especially oath taking and the pronouncement of curses, which work like spells in English fictional literature. There is a general belief in Africa concerning the efficacy of such curses or spells — particularly among Ghanaians when such invocations are issued by Ewes of the Volta Region.²⁸ The public is also acutely sensitized to spiritual and physical calamities associated with violating oaths sworn in the name of ancestral spirits and gods. So curses and spells are a genuine source of fear and a focus of anxiety, especially when they are invoked for political purposes.

Commenting on these and similar phenomena in the last two elections, Dr. Elom Dovlo, a church historian and expert on African traditional religions at the University of Ghana, has observed that Christian issues dominated the 1992 elections and that African traditional religious issues dominated the 1996 elections. The media carried several stories in which members of the NDC government were reported as consulting gods and seeking 'voodoo' powers for victory and protection against their political enemies.

Some of the candidates involved with the oath-swearing and voodoo practices included the regional minister of the Volta Region, Mr. Modestus Ahiable, and a former university professor, distinguished poet and diplomat, Professor Kofi Awoonor. In a widely publicized open letter to the president,²⁹ the Fiaga (chief voodoo-priest of Wheta, a village in the Volta Region) called on Mr. Ahiable to prevail upon Togui Adzaklo to cancel the voodoo curses he had forced him to put on Professor Awoonor and the entire Wheta community "through secret nocturnal rites when a pig was sacrificed." Instead of dismissing this spiritual warfare, *The Daily Graphic* reported the voodoo-priest's appeal on the very day of the primaries. In response, Professor Awoonor invoked the spirit of Torgbui Nyibla, the war god of Afife; and with a white band on his right wrist he performed sacrifices to that god on the prescribed ritual days, to help him win the election.³⁰

Another strange development that frightened many registered voters into supporting the NDC occurred during the 1996 election. It was widely reported in the media that the NDC candidates forced anyone who had taken a bribe to vote for them also to take a traditional religious oath to reinforce the bribe. The penalty for failure to vote for the NDC and the president would be a curse with deadly repercussions, not only for the disloyal individual but also for that person's relatives. The possibility of such spiritual calamity could not be ignored by most of these people since they believe in the efficacy of these oaths and curses. This is especially so when the gods invoked include the river god *Antoa Nyamaa* whose powers have been popularized by the President himself through the state media since 1979 when he led a successful coup d'état.

In keeping with disaster-avoidance decision-making policy, those that had taken bribes in the form of money, salt (and, strangely, enemas) thought it wise to vote for the president and his party, to avert any terrible consequences. The same policy was followed by some that were unsure whether or not they had thus committed themselves. This sort of reasoning is typical of traditional doctrine adherents and less formally educated people. The private opposition presses may have thought they were undermining the chances of victory for the incumbent government by publicizing incidents of these bribes and curses. But rather, they succeeded unwittingly in

spreading enough panic to make the public vote safe, thus averting potential harm due to these dreaded supernatural forces.

The government successfully manipulated public opinion and action by exploiting pious fears. The objection here is not that the president *created* a fear of supernatural forces that he himself regards as non-existent, thus exploiting the superstitions and ignorance of non-formally educated people through malicious deception. Rather, the morally objectionable behavior lies in his identifying himself with such beliefs through public pronouncements and through traditional challenges issued to any adversary. The substance of these repeated challenges was his invitation to his adversaries to accompany him to visit powerful shrines — like that of *Antoa Nyamaa* near Kumasi — in order to prove the veracity of their claims and appeals for justice.

MANIPULATION THROUGH THREAT OF POLITICAL VIOLENCE

According to Dr. Dovlo, the public's fear of vengeance in the event that the opposition did win the 1996 election provoked public appeals for peace and finally a peace march led by a number of religious bodies. Some of the presidential candidates in the race were feared to be harboring resentment against Rawlings and the Ewe ethnic group as a whole to which he belongs. For example the late Dr. Hilla Limann, former president of the Third Republic, was alleged to have threatened not only vengeance against his unjustified overthrow, but also to have threatened that, if his party failed to win the 1996 elections, there would be bloodshed in the country. Both the hearing and the denial of these charges were widely publicized by the state media for over five months preceding Election Day.³¹ *The Free Press* published in extra large and extra bold red captions "There Will Be Bloodshed."³² The grim message from the Minister of Youth and Sports, Mr. E.T. Mensah, was echoed throughout both the public and private media: Let mothers warn their offspring, and wives [warn] their husbands, for there will be killings when you fail to vote the NDC into power.³³

The voting public could not afford to ignore such a threat. It was this very minister who allegedly had organized and ordered counter-demonstrating hooligans to shoot fatally four participants in an otherwise peaceful and popular demonstration called *Kume Preko* ("Kill Me Quick"), in protest against the government's first attempt to impose the devastating Value-added Tax (VAT) just a year before the 1996 election.

Shortly after this incident of extra-judicial state-initiated killing, the New York-based periodical, *The African Observer*, reported that the Ghanaian government had purchased and deposited large quantities of ammunition in some neighboring West African countries. A brief news conference refuting the allegations would have minimized the fears of the people. But no such refutation was published in the media. The government chose neither to confirm nor deny any of the allegations in the media. This silence consequently provoked such a degree of fear in the public that religious and traditional leaders were obliged to advocate and pray publicly for peaceful elections.

Just four days before the elections, the following political advertisement was issued from the national military headquarters:³⁴

Politicians must respect the military; they must also earn the trust of the military through their words and actions. Political parties and politicians who are contemptuous of the military have not had stable governments when they have been in power. It is essential for the good of Ghana, that the military and the politicians be able to work together in their respective capacities without the need to swap roles.

This was correctly understood by the public as a military threat; it confirmed the unofficial ultimatum that unless the NDC and President Rawlings sustained their power Ghana would become another Liberia, Somalia or Burundi. Other fear-inducing strategies deployed in the media included the following:

- Reports of assault on NPP candidates and supporters by men in military uniforms.
- Statements to the effect that June 4th was not as bloody as the French Revolution and would be celebrated no matter what the constitution says.
- The imposition of several days of curfew on Kumasi directly upon announcement of the NDC victory in 1992 (Kumasi is the strongest seat of opposition to the NDC). Another curfew in Kumasi was imposed several days before the 1996 elections; explosion of deafening bombs to scare people at dawn two weeks prior to the election in Kumasi.
- The use of so-called 'macho men' and organs of the Revolution including the CDRS (Committee For the Defense of the Revolution), the June 4th Movement and Reformed Nkrumahists Brigades, at rallies.
- A relentless exhibition of the plight of victims of civil wars and starvation in Liberia, Sierra Leone, Somalia, Burundi and the Congo on TV through news items, documentaries, features and advertisements. The message was loud and clear: This could well be your fate if you fail to vote 'wisely', on the 7th of December, 1996.
- The 11th hour media announcements on changes in the national security system, especially the abrupt replacement of the more gentle and politically neutral IGP (Inspector General of Police) Mr. Kwofie, with the no-nonsense, pro-Government IGP, Peter Nanfuri.
- The media's focus on the president's visit to the permanent central military base in Accra, Burma Camp, (ostensibly to advise military officers how to ensure peace on election day) communicated a reminder of the strong and sustaining solidarity between the president, a former army lieutenant, and the armed forces. This announcement functioned effectively as another veiled threat of violence for a public familiar with political instability and *coups d'etat* as the norm for political change.

CONCLUSION

The burden of this paper has been to argue on the basis of a well-established notion of political manipulation, that the outcome of both the 1992 and 1996 national elections in Ghana cannot be explained without reference to the government's engaging in various forms of political manipulation, relying chiefly upon the broadcasting and print media. It has been shown that the strategies included putting crippling legal restrictions on the campaign activities of opposition parties, monopolizing control over radio and television broadcasting, controlling editorial policy of the newspapers with the widest circulation, exploiting religious traditions and threatening the public with political and military violence.

In light of this evidence, the question yet to be resolved is whether there is any way to avoid perpetuating this political precedent in the future of Ghana's emerging democracy. Two possibilities present themselves for consideration here: The society might adopt a free-market *laissez faire* principle towards political practice, and leave matters to develop as they will without intervention in future electoral races. Alternatively, some policy for arbitration and conflict resolution might be applied to prevent future abuses of political power. The first option is attractive to Ghanaians insofar as it is non confrontational. And with different personalities in

office the strategies outlined here might never be employed again. But there is a long-term risk that they might be. Formerly successful dictators who have metamorphosed into 'elected' democratic leaders are particularly motivated to pursue these various forms of political coercion in order to sustain their positions of power in a non-violent ambience. There is wisdom in the familiar adage that evil triumphs when good men do nothing, particularly in the matter of preserving a social institution so fragile as the democratic process. Here are some steps that might ensure the media will no longer be manipulated:

- An independent Public Appointments Board should be established, backed by the constitution and the judiciary so that its decisions are legally enforceable, to ensure that state appointments to sensitive posts in the media are not influenced by partisan interests.

- Incumbent military dictators should be legally disqualified from contesting in political campaigns until they have vacated their offices for at least four years. This will discourage their demonstrated tendency to manipulate the electoral process while in office.

- Finally, once the Ghana Journalist Association has vowed to function as the watchdog of the constitution, the question arises, who watches the watchdog? An effective solution might be the formation of an association of fair-minded and apolitical intellectuals outside government who monitor the press corps and national developments, offering periodic reviews of media performance that are publicized internationally. Such an association could educate and support journalists in exercising their democratic right to free speech. Such a body could take an active role in guiding the press and protecting the public against either the excess of political intimidation that encourages propaganda, or the irresponsible abuse of established public figures through irresponsible accusations or insinuations in the media.

The rationale for such vigilance has been expressed by the late guru of journalism and political philosophy, Dr. Paul V. Ansah. He once cautioned his readership against dictators who know that communications technology offers immense opportunities for either liberation or for domination, for enlightenment or manipulation, for promotion of political harmony or instigation of disintegration.³⁵ Unless these or similar intervention policies are pursued seriously, authoritarian governments of Africa may continue to jeopardize the process of democratization, as has been witnessed in Ghana's recent political history.

NOTES

1. See Ghartey-Tagoe in *Prospects for Public Broadcasting in Ghana*, Bonnah A. Koomson, ed., (Accra: Gold Type Ltd., 1995), p. 43.

2. For a full account of the organization and results of the 1996 elections see *Elections '96 in Ghana*, Part I, by Kwasi Afriyie Badu and John Larvie (Accra: Gold Type Press, published jointly by The Electoral Commission of Ghana and The Fredrich Ebert Foundation, Ghana Office, 1996).

3. Bonnah A. Koomson, ed., "Introduction," *Prospects for Public Broadcasting in Ghana* (Accra: Gold Type Ltd., 1995), p. 2.

4. Kofi Kumado, "Opening Remarks," in *Prospects for Public Broadcasting in Ghana*, *ibid.*, p. 7.

5. *Ibid.*

6. Kumado, *op.cit.*, p. 8.

7. *Ibid.*, p. 7.

8. Koomson, *op.cit.*, p. 1.
9. *The Chronicle* (Accra) Dec. 13-19, 1996.
10. David Ghartey-Tagoe, "Independent Religious Broadcasting in Ghana — Prospects and Challenges for National Development" in *Prospects for Public Broadcasting in Ghana, op.cit.*, p. 44.
11. *Daily Graphic*, *ibid.*
12. George Sydney Abugri, *The Daily Graphic*, 19 September 1996, p. 5.
13. *The Chronicle*, *op.cit.*
14. Kwame Karikari, "Political and technological constraints on the development of independent broadcasting in Ghana" in *Prospects for Public Broadcasting in Ghana, op.cit.*, p. 10.
15. John S. Mbiti, *African Religions and Philosophy* (London: Heinemann, 1977), pp. 1, 3.
16. Ghartey-Tagoe, *op.cit.*, p. 45.
17. *The Ghanaian Times*, May 20, 1997.
18. Plato, *Republic*, Book IV.
19. Professor of linguistics and literary critic Kwesi Yankah noted: "Suddenly it has been realized that the shortest route to The Castle* is the Church, and so, therefore, presidential aspirants (and doubtfuls) are building castles in the church, even when they are coming to embezzle funds. The whole trick has been to hold the Bible in one hand, the Constitution in the other, get the votes and throw the Bible away. They of course know the psychology of the electorate. ("Building Castles in the Church," *The Mirror*, Sept 12, 1992).
- * 'The Castle' in local parlance around Accra refers to the government's official presidential seat, which is in the Christianborg Castle built by the Danes in the 17th century, in a suburb of central Accra.
20. Kwame Nkrumah, *Consciencism: philosophy and ideology for de-colonization and development in Africa* (London: Heinemann, 1964), p. 68.
21. *Ibid.*, p. 70.
22. An outstanding fact emphasized in critical appraisals of Rawlings' political record is the extra-judicial executions in 1979 and in 1983 for which he is held responsible. The earliest of these were of public officials and former heads of state charged with defaulting on loans; the more recent killings were of six judges who had previously passed decisions unfavorable to Rawlings and other ruling members of his staff.
23. Nelson Goodman, *Ways of Worldmaking* (Indianapolis: Hackett, 1981), p. 14.
24. Elom Dovlo, (May, 1997) "The Role of Religion in the Politics of 1996" Lecture delivered at University of Ghana, Inter-faculty Lecture series, p. 21.
25. E. Dovlo, *ibid.*
26. *The Chronicle*, "Utterances Against the Most High, Shall We Blame the President?" May 1996, pp. 6-7.
27. *The Methodist Times*, editorial, "Free, Fair, and Peaceful Elections" November, 1996; and GTV "In the Light," television talk show program, November 1996.
28. The president is half Ewe, half Scottish; his mother comes from the Volta Region.
29. *The Daily Graphic*, June 3, 1996, p. 7.
30. E. Dovlo, *op.cit.*, p. 36.
31. "We will not probe or try Rawlings; we will leave him to his conscience. I am a Christian and I believe vengeance is for the Lord." Interview with *The Christian Messenger* October 16, 1992. Limann's denial was expressed at Ho, Sept 10, 1992.

32. *Free Press* September 6-12, 1966. High school children in Ada (a coastal township about fifty miles from the country's chief port, Tema) — when asked by their teacher why they wanted their parents to vote for the incumbent presidential candidate in 1996 — claimed that if Rawlings did not remain in power then the country might be bombed.

33. *Free Press*, *ibid.*

34. *The Ghanaian Times*, December 3, 1997.

35. P.A.V. Ansah, "An African Perspective" in *Cultural Expressions in the Global Village*, David Nostbakken and Charles Morrow (eds.) (Ottawa: Southbound, IDRC), pp. 39-57.

CHAPTER VII
PLANT BIODIVERSITY, HERBAL MEDICINE,
INTELLECTUAL PROPERTY RIGHTS AND INDUSTRIALLY
DEVELOPING COUNTRIES:
Socio-economic, Ethical and Legal Implications
IVAN ADDAE-MENSAH

Some 40 percent of the world's market economy is based on biological products and processes.¹

In the rural communities of Africa, Asia and Latin America where the majority of the world's people live, the dependence on biomaterials can run to over 90 percent of human survival requirements. In an increasingly urbanized world, it is difficult for those of us inside city gates to remember that more than half of the food humanity consumes is bred and produced by the people who eat it, and that eight out of ten members of the human family turn to community healers and medicinal plants for protection from illness.²

WORLD HEALTH ORGANIZATION PROGRAM

About ten years ago, the World Health Organization launched its program of 'Health for all by the year 2000.' Right from the outset of the program, WHO realized that any program adopted in any of the minimally industrialized countries would have no impact if it did not take into consideration the development and integration of traditional medicine into the primary health care programs of these countries.

WHO has estimated conservatively that between 60 and 90 percent of the population of the non-industrialized countries rely on medicinal plants to meet their health care needs, either totally or partially. With the scarcity of doctors and paucity of hospitals and clinics, the large majorities of these populations have to rely on sources other than allopathic medicine for their health care. For example, in Ghana there is one traditional doctor for approximately every 400 people, while the ratio of allopathic doctors to patients is 1 for 12,000.³

Various reports from the United Nations (UNCTAD and GATT) have indicated that 33 percent of drug products in the highly industrialized countries are derived directly from higher plants; most of these are tropical plants growing in equatorial countries. Lower plants and microbes produce another 27 percent of drugs found on the market.⁴ Indeed, more than 67 percent of the world's plant species — at least 35,000 of which have potential medicinal value — originate in non-industrialized countries of the 'South'.⁵ The market for plant-based drugs is growing every year throughout the world. These drugs now account for over \$US 50 billion of the total worldwide drug market now totaling over \$US 173 billion.

The estimated manufacturer's price value of medicinal materials derived from plants obtained from the developing countries of the South is expected to reach between 35 and 47 billion US dollars by the year 2000.⁶ Of the total world pharmaceutical sales of \$US 172.56 billion, as of 1989, Africa accounted for only 2.1 billion US dollars. In fact, the highly industrialized countries — which constitute only 20 percent of the total world population of now over 5 billion — consume 80 percent of all pharmaceuticals produced in the world. So, how do

Africa's 500 million people, for instance, take care of their health if their total share in world pharmaceutical consumption is only 1.2 percent (US\$ 2.142 billion)? Indeed, the total for all developing countries is only 15 percent of worldwide pharmaceutical purchasing. Whatever means or method used by this section of the world's population ought to be fully recognized in any formulation of health policies or programs aimed at 'health for all' by the year 2000.⁷ The international community has a clear duty to ensure the full conservation of whatever alternative sources of health care are currently available to the remaining 80 percent of the world's population normally classified as belonging to the 'South'.

Right from the beginning of the WHO's program, the organization recognized the peculiar circumstances that obtain in less industrialized countries with respect to traditional medicine and health care delivery. Both WHO and UNICEF recognized that in view of the widespread use and acceptability of traditional medical practice, no impact will be made on Africa's overall health care status without due recognition, development and integration of traditional medicine into the primary health care delivery system of each country or region. This recognition led to the WHO/UNICEF 1978 conference in Alma Ata, USSR, at which the participants resolved and specifically urged member states to:

- (i) initiate comprehensive programs for the identification, evaluation, cultivation and conservation of medicinal plants used in traditional medicine;
- (ii) ensure quality control of drugs developed from traditional plant remedies by using modern techniques and applying suitable standards and good manufacturing practices.

This conference was followed in 1988 by another in Thailand, at which the Chiang Mai declaration to 'save plants that save lives' was made. This declaration formally brought the rational and sustainable use and conservation of medicinal plants into the arena of public health policy.

The Alma Ata declaration of 1978 was followed subsequently by various policy decisions of the Inter-African Committee on Medicinal Plants and African Traditional Medicines of the Organization of African Unity (OAU). These policy decisions were aimed at implementing WHO's recommendations. Several African countries including Ghana have initiated programs aimed at maximizing the contribution of herbal medicine to their primary health care delivery nationwide. These programs have raised some very pertinent questions and problems of considerable importance for Africa particularly, and for the 'Third World' in general. These include questions that are socioeconomic, ethical, legal and environmental.

Development of medicinal plants relies very heavily on the knowledge carried by indigenous peoples and rural societies. In recent times this has raised concerns about equitable sharing of the benefits of such knowledge and the intellectual property ('IP') rights of these indigenous rural communities. Securing such rights and protections entails specific dilemmas and policy implications, which I will examine throughout the rest of this essay.

Socioeconomic Considerations

World trade in medicinal plants accounts for about 30 percent of the total drug market. This percentage excludes plants used as raw material sources for the essential oils required to manufacture cosmetics, food additives and for other non-medicinal purposes. Most of these medicinal plants come from less industrialized countries that supply them as cheap raw materials

to the multinational pharmaceutical manufacturers in the more industrialized countries. Of 76 compounds obtained from higher plants that are present in US prescriptions, only 7 percent are commercially produced by total synthesis.⁸ In 1976, imports of medicinal plants worldwide were estimated to be \$US 355 million. This rose to \$US 551 million by 1980 — an increase of over 60 percent within four years.⁹ But when these medicinal plants are processed into suitable dosage forms as safe and efficacious drugs, they are sold to the public at prices far beyond the affordable range for the majority of people in the relatively poor countries. Yet it is the botanic resources of these same countries that make possible the manufacture of these drugs for commercial markets.

A typical example is the Madagascar rosy periwinkle *Catharanthus Roseus*, a plant indigenous to Africa that has been used for several years in East Africa for the treatment of cancer and diabetes. Research on this plant yielded two very important anti-cancer drugs: *vinblastine* and *vincristine*. Although the plant is native to Madagascar, it was the US pharmaceutical firm Eli Lilly that commercialized the drugs from germplasm obtained from the Philippines and Jamaica.¹⁰ Vincristine is now the drug of choice for the treatment of childhood leukemia, and it has an annual retail value of over \$US 150 million. Vinblastine is used for treating Hodgkin's disease, a serious ailment of unknown origin resulting in enlarged lymph glands, increased numbers of lymphoid tissue cells (*hyperplasia*) in the spleen, liver and other organs, as well as anemia. Before the discovery of vincristine, the survival rate of children with leukemia was about 20 percent. Now the success rate for this drug is over 80 percent. But a 5mg ampoule of vincristine sulfate injection costs about \$US 80, making the drug virtually inaccessible to most leukemia children outside the industrialized world.¹¹

Maytansine belongs to a class of compounds called the ANSA Macrolides, first discovered from microbes and now found to occur in higher plants. It was first isolated by Kupchan in the US from the plant *Maytenus serrata* obtained from Ethiopia. Maytansine showed promising clinical results as a potential antileukemic drug, but died of cancer before his work could be published. Later, higher yields of the compound were found in a Kenyan species, *Maytenus buchananii*, and a South African plant *Putterlickia verrucosa*. The compound is active against various strains of lymphocytic leukemia and melanoma, and has been on clinical trials for some time. It is interesting to note that one of the *Maytenus* species has been in popular use for almost 50 years in a South African herbal mixture for carcinoma and sarcoma. But alas, as in the case with vincristine, if maytansine finally gets on the market neither Ethiopia, Kenya nor South Africa will get the millions of dollars accruing from its sales. (Nor is it likely that an average citizen needing the drug in any of these source countries will be able to afford it). Plants are not patentable; but synthetic routes or isolation methods are.¹² Similar examples abound.

Unfortunately, even though our herbalists can continue to provide some relief for cancer patients by administering the crude plant extracts of *Maytenus* and *Catharanthus*, their knowledge, which originally led to the discovery of the landmark drugs just described, cannot be rewarded in the same way as multinational drug companies get their rewards and profits. This means that the non-industrialized countries are not deriving any economic benefit from the exploitation of their nations' medicinal plant resources. Moreover, as noted already, the approach adopted by the Western world for production and distribution of drugs from plants is far from satisfactory for the majorities living where these essential resources exist. Therefore, in formulating policies for the exploitation of our medicinal plants, policy makers will have to consider how best to manage our natural resources for the full benefit of our citizenry.

Ethical Questions: Intellectual Property Rights of Indigenous Peoples

The ethical issues involved in medicinal plant research and utilization can be divided into two main categories, namely:

- (i) The relationship between the researchers based in highly industrialized countries and the host countries whence the raw materials are obtained;
- (ii) The relationship between research and development personnel and commercial concerns.

With every passing day large quantities of raw materials are exported to industrialized countries, either for research aimed at producing new drugs or for direct production of drugs for sale. At the time of the 1994 Earth Summit in Rio de Janeiro, the US National Institute of Health and USAID launched a 'drug discovery' project in the less-industrialized countries of the South. The strategy involved making use of the "wealth of knowledge held by traditional countries".¹³ Through its departments of Chemistry and Botany, the University of Ghana has been part of this project over the past five years, in collaboration with the National Cancer Institute (NCI) and the Missouri Botanical Gardens. I shall describe our experiences with this project in due course.

Similarly, the Shaman Pharmaceuticals Company has pioneered new approaches to working with rural communities that seem to be bearing commercial fruit. For example, a cooperative agreement has been made with the *Consejo Aguaruna y Huambisa* in Peru. About half of the 400 species collected through this agreement have shown some medicinal potential, and two drugs are now in clinical trials. By working with community innovators, the researchers' efficiency in screening plants for medicinal properties has improved considerably — by more than 400 percent.¹⁴

Notwithstanding what transpired at the Rio Earth Summit, it appears that now the crucial contribution of indigenous and rural communities to innovations in the conservation of the world's biodiversity has finally been recognized, but is yet to be fully understood. As observed by the 'Crucible Group', the fact that "indigenous peoples inhabit the most diverse fields and forests of the world is sometimes viewed as both coincidental and unfortunate. That a correlation could exist between the uses made by people of biological diversity and the availability of that diversity is seldom considered".¹⁵

Many new drugs discovered from plants have originated from information obtained from a local informant about the traditional or ethnobotanical use of the plant. But once the drug is commercialized, the source of this original piece of information gets neither benefit nor financial compensation for sharing his knowledge and expertise. There is no protection of the individual's intellectual property, however rudimentary such protection might be. This raises not only ethical, but also legal questions which I shall deal with later. Moreover, if the particular plant is successfully commercialized, the country that is the main source of the plant will find itself exploited as a supplier of cheap raw materials. A typical example is the case of pilocarpine, an alkaloid from the Brazilian *Pilocarpus* species, used for treating glaucoma. In 1989 the USA sold \$28 million worth of pilocarpine. Yet the Brazilian producer was paid only 28 cents per kilogram of *Pilocarpus*. In 1962, 808 tons of this plant were exported from Brazil at a price of 22 cents (\$US 0.22) per kilogram, while 1,290 tons were exported in 1970 at 36 cents per kilogram.¹⁶

The question arises: is it ethically or morally right for research agencies from 'developed' countries to go to 'developing' countries, obtain valuable information crucial for research and manufacture of a precious drug that is likely to be inaccessible to the populations of the

‘developing’ countries, without the latter receiving any meaningful economic benefits for originally providing the knowledge that led to the discovery or development of that drug? As a corollary: will it be ethically or morally justified for ‘developing’ countries to protect their traditional herbal heritages by placing a total embargo on the exploitation of these medicinal plants?

The Organization for African Unity (OAU) has regulations that forbid export of medicinal plants in commercial quantities without the explicit permission of the host government. Research cooperation is likewise supposed to be regulated and monitored. But except for a few countries, these regulations are totally ignored. For example, several tons of *Voacanga africana*, a plant that serves as a raw material source for anticancer drugs, are exported yearly to the USA for pharmaceutical industries there. There is a plant called *Thaumatococcus danielli* that contains a sweetener believed to be about 4,000 times sweeter than sugar. In fact it is supposed to be the world’s sweetest natural substance: one kilogram is as sweet as four tons of sugar. Moreover, being a protein, it does not pose the same high calorie problems that sucrose poses. Tate and Lyle of Britain have shipped literally tons and tons of this plant out of Ghana and Nigeria, and developed it into the sweetener ‘Talim’ that is suitable for diabetics. What benefit is Ghana or Nigeria gaining from all this enterprise? Correlatively, would it have been prudent or ethical for Ghana to place an embargo on the exportation of this plant, thus potentially impeding its development for the general good of mankind? A US-based company [name withheld], in collaboration with a Swedish firm [name withheld], is currently working on methods for producing another protein-based sweetener from another plant, *Synsepalum dulcificum* (the sweet berry), again using material obtained from Ghana. This plant also occurs in many other African countries. So there arises the ethical question of how to determine which country should be the beneficiary as the original source of the raw material, in the event that any compensation is eventually awarded by these two companies.

Legal Questions: Patent Laws and Intellectual Property Rights

In every country, there are certain legal requirements that govern all prescription drugs — their manufacture, wholesale and retail distribution, dispensing procedures and usage. However, when it comes to phytopharmaceuticals, certain peculiar legal problems arise. This is especially so in most African countries where there is no official legal framework for the incorporation of traditional medicines into the health care delivery program.

In the European Community (EC) countries generally, all phytopharmaceuticals are subject to general drug regulations. Like synthetic drugs, all phytopharmaceuticals must comply with criteria of quality, safety and efficacy. Their pharmacological, toxicological and clinical profiles have to be scientifically established through standardized tests and deposited with the appropriate licensing committee before permission can be granted for the drug’s distribution and sale. For example, according to French law only the pharmacist is licensed to retail herbal medicines, with few exceptions.

There are specific legal definitions of what constitutes a vegetable drug.¹⁷ In the EC, a medicine is defined as any substance or combination of substances presented for treating or preventing disease in human beings or animals, with a view to making a medical diagnosis or to restoring, correcting or modifying physiological functions in human beings or in animals.

An herbal drug will therefore be considered as a medicinal product if it is:

- (i) presented for treating or preventing disease in human beings or animals;
- (ii) administered with a view to restoring, correcting or modifying physiological functions in human beings or animals.

Hence, for use as drugs, herbal preparations are legally required to be tested for contamination by foreign materials, pesticides, foreign plants, parasites and bacteria. To get a license for marketing in the EC, a drug must meet the basic standards of quality, safety and efficacy.¹⁸ But in Africa very few countries have put in place any legal framework to regulate the production of herbal drugs and the practice of herbal medicine. Zimbabwe does have a comprehensive law. Ghana is only just about to submit a draft law to Parliament for approval. Meanwhile, Ghana has set up a unit within the Ministry of Health that acts as a quasi-regulatory authority for the practice of herbal medicine. But this unit is yet to be given appropriate legal backing to enforce its regulatory and safety measures.

One of the difficulties bedeviling any attempt at integrating traditional medicine into primary health care has been the secrecy with which each herbalist guards his own preparations for any particular ailment. I have already mentioned that many new drugs developed from a plant source originate initially from the folkloric knowledge of the local herbalist. This was the case for aspirin, quinine, vincristine, physostigmine, pilocarpine, morphine, codeine, atropine and other essential drugs. Now, the problem is that there are no patent laws regarding such knowledge. Normally one cannot patent a plant. One can only patent a particular formulation, or a substance isolated from a given plant. Suppose an herbalist tells a scientist about a plant used for treatment of, say, hypertension. If the scientist is then able to isolate the active ingredient or to formulate even a crude herbal preparation that is thoroughly tested and accepted, then he, the scientist, can patent the drug or the preparation. But the herbalist cannot patent the plant material, because this is considered to be 'God's universal property.' Moreover, that same plant may exist in so many different countries and may have been used for years for the same purpose by many people independently. So the herbalist has no other alternative but to keep his knowledge close to his bosom. This has serious implications. Suppose a policy is formulated compelling the herbalist to subject every preparation to scientific quality control, to test it for efficacy, toxicity, and so on — as is the norm in Europe and America, and increasingly now in African countries. Then the herbalist will be compelled by law to reveal the name of the plant, the source, his mode of preparation and so on, to the licensing authority. The protocol of secrecy exists even in highly industrialized countries, but only during the time that a drug is being developed by a pharmaceutical firm. Once patenting is completed and the legal protection is secured, all the information about a drug can become public knowledge and can even be published in professional journals without threatening the credit and benefits due its discoverer. So the question remains of how to resolve this thorny problem of effectively protecting the intellectual property of our local herbalists, whose knowledge and expertise have been handed over from one generation to the next in accordance with established traditional norms.

BIODIVERSITY AND INTELLECTUAL PROPERTY

In recent times, various organizations have tried to draw the attention of the international community to the need for formal recognition and protection of the intellectual property rights of indigenous peoples, particularly the rights of farmers, herbalists and custodians of a nation's plant genetic resources. In highlighting this need, these organizations have not lost sight of the

interdependence of all regions of the world in accessing some of the most important foods and medicines of the biosphere. Governments and industries have recognized this need and have shown concern in the protection of intellectual property associated with biomaterials. This international concern has resulted in several conferences, meetings and workshops that have eventually led to the production and signing of various conventions and agreements. Perhaps the most important and far-reaching of these efforts is the '*Biodiversity Convention*.'

The Convention on Biological Diversity, popularly known as the '*Biodiversity Convention*,' came into force on December 29, 1993, having been drawn up and tabled at the United Nations in 1992. This Convention is a broad and legally binding writ that is probably the most important initiative yet taken to set the world on a course towards environmentally sustainable development. The Convention also supports natural sovereignty, the right of countries to benefit from their bioresources, and the right of countries to have access to technologies that could assist in the conservation and exploitation of their biological resources.¹⁹

Various international conferences and workshops have also addressed the difficulties of patenting biological materials. In these various fora, many alternatives such as the option dubbed 'Fast GATT', the 'Patent Option,' the 'Union for the Protection of New Varieties of Plants (UPOV)', *sui generis* possibilities and the role of international biodiversity centers, have been formulated and extensively debated.²⁰ However, despite the good intentions of the *Biodiversity Convention*, this covenant has several weaknesses that in the long run may make it difficult to implement in the interest of the less-industrialized countries. For example, genebank and botanic-garden materials collected before the coming into force of the Convention are unprotected by it, and so they are now beyond the reach of countries in the 'South' who initially were the major donors of these materials to conservation centers in the 'North'. With the recent spate of attempts by various firms to patent biological materials originally collected from the 'South' and improved through genetic engineering, the 'South' may in the long run be the loser. In its report entitled "People, Plants and Patents," the *Crucible Group* had this to say about the *Convention*:

The *Convention* only applies to that material that we do not know to exist and that will probably not be commercialized in the foreseeable future. Unless otherwise established through agreed interpretations to the Convention, this new legal covenant, for the first time, acknowledges the right of governments and corporations that obtained the South's germplasm before the convention to declare this material their own and to control access to it and benefit from it. If this is the case, some members (of the *Crucible Group*) contend that the *Biodiversity Convention* of 1992 could become the biggest "rip-off" of indigenous peoples and of their knowledge and materials since 1492.²¹

Incidentally, 1492 marks the first major European settlement in Africa, through the construction of a castle in El Mina, Ghana (then The Gold Coast), by the Portuguese. This settlement marked the beginning of European trade in Africa, first in gold and ivory, then later — more ominously — in slaves. El Mina, and to a large extent Goree Island in Senegal, remained the biggest and most notorious slave trade center in the whole of Africa for a very long time.

According to the *Crucible Group*, the range of feasible options for protecting the intellectual property of farmers and indigenous peoples has not yet been fully explored. The Group has suggested that the FAO, UNESCO, UPOV, WIPO (and perhaps WHO) ought to be asked to

convene an international meeting of experts to explore this issue in conjunction with industry, NGOs and farmers' organizations. Since whatever conclusions are derived can only be enforced through strong government backing, I believe that governments should also be involved in the organization of such meetings of experts. It is a fact that none of the current Intellectual Property Conventions acknowledges fully the intellectual contribution of informal innovators such as herbalists and farmers. Hence, the incomparable expertise of these people — most of whom are citizens of 'developing' countries — is grossly undervalued. It is the absence of such recognition and acknowledgement that has led to the unquestioned and unchallenged appropriation of the innovations of rural communities.²²

INITIATIVES OF VARIOUS ORGANIZATIONS

In the absence of a comprehensive and fair policy on intellectual properties of indigenous peoples, various organizations have gone into bilateral contract arrangements with partners in the developing world, to take care of these shortcomings — despite the associated risks of such bilateral arrangements.

The Merck/In Bio Initiative. In recognition of the value of biodiversity to industry, Merck (in collaboration with the NGO, *In Bio*) has set up a project in Costa Rica, funding it with \$US 1.135 million, for 10,000 extracts from medicinal plants collected by parataxonomists. They have also agreed on a royalty-sharing system if any of the materials are commercialized.²³

Various viewpoints have been expressed about this agreement. Some consider it as nothing but exploitation. They argue that whereas Merck's sales in 1991 were \$US 8.6 billion, and their research budget was \$1 billion, the total GNP of Costa Rica for that year was \$5.2 billion — less than Merck's total sales. So what is a mere \$US 1.135 million to Merck for 10,000 extracts? Others argue that this is an encouraging beginning in an area of partnership where nothing previously has existed. Yet another view is that for the exploitation of biodiversity, all options should be kept open to see which initiatives will stand the test of time.²⁴ But can industrially developing countries afford such expensive experiments with their natural resource endowments and merely hope for some pay-off that may never materialize?

US National Cancer Institute/Missouri Botanical Gardens/University of Ghana. The National Cancer Institute and the Missouri Botanical Gardens, along with a number of African countries, have jointly established plant collection and screening programs. The first was set up in Madagascar, followed by programs in Cameroon and Tanzania. The latest is the one instituted about five years ago with the Botany and Chemistry Departments of the University of Ghana.

In the absence of adequate patent laws, the agreement for this particular project provides for:

- (i) capacity-building and strengthening in the research programs of the University through staff exchange, material and equipment support;
- (ii) royalty sharing if any material is commercialized.

Through this project, the Missouri Botanical Gardens in collaboration with the Botany Department of the University of Ghana has collected a large number of plants from Ghana for screening by the National Cancer Institute (NCI) for potential anti-cancer and anti-AIDS drugs. There has been some staff exchange, and pure compounds isolated by the Chemistry Department

have been tested using the facilities of the NCI. The three institutions are in constant discussion to improve the workings of the project within the framework of the original agreement. So far the only major area that has raised some concern is the capacity-building and institutional-strengthening aspect of the project with regard to the University of Ghana; this is currently under discussion.

The Shaman Partnership. Shaman Pharmaceuticals has announced its intention to return a percentage of profits back to all countries and communities that it has worked with after any and every product is commercialized. Compensation will be funneled through the *Healing Forest Conservancy*, a non-profit organization founded by *Shaman* for the conservation of biodiversity and for the protection of indigenous knowledge.

Shaman's research has already led to patent claims, with full acceptance and recognition of the contribution of the communities from which it has received medicinal plants. The company has developed contracts with some indigenous communities in Latin America, but it will take some time before one can tell whether this arrangement has benefited the communities involved.²⁶

WIPO MODEL PROVISIONS FOR FOLKLORE

In 1985 The World Intellectual Property Organization (WIPO) and UNESCO published "Model Provision on Folklore." This model has three unique elements that seek to protect biological products and processes, including herbal preparations. The provisions are as follows:

(i) Communities, rather than individuals, can be legally registered innovators and can either act on their behalf or be represented by the State.

(ii) Community innovators are not necessarily fixed and finalized, but can be ongoing or evolutionary yet still protected by IP Law.

(iii) Beyond standard patent or even copyright provisions, communities retain exclusive control over their folklore innovations for as long as the community continues to innovate.²⁶

One major weakness of these provisions is that they totally exclude scientific inventions. Therefore it is difficult to see how the IP of an indigenous people can be effectively protected under these provisions if a scientific invention, or discovery of a drug, or a new variety of a crop is made by a scientific laboratory. After all, most local healers do not have the same knowledge as that of a chemist regarding the active compounds derived from a plant which are patented as medicine. So they will never know whether a particular drug put on the market emanated from germplasm collected from their own community or from folkloric information obtained from some member of their own community. A typical example is the current controversy raging over a compound, *Michelamine* — discovered in a West African plant *Ancistrocladus corupensis*, from the rain forest of Cameroon and believed to be one of the most encouraging discoveries yet made in the search for a cure for AIDS. But for the international hue and cry raised by other scientists from Africa, it is doubtful whether the indigenous peoples of Cameroon would ever have become aware of this discovery; indeed, I doubt that even now they are aware of it.

I have tried in this essay to examine various issues concerning the intellectual property rights of indigenous peoples of the less-industrialized world, especially as they apply to traditional medicines. The issues are even wider and more complex when it comes to food and

agriculture. Biodiversity and conservation will certainly be one of the major issues of the twenty-first century, perhaps second only to information technology expansion and utilization. The time to examine these issues and protect the rights and interests of the less privileged societies who constitute the majority of the world's population is now.

NOTES

1. R.M. Gadbow and T.J. Richards, (eds.) *Intellectual Property Rights — Global Consensus, Global Conflict?* (Boulder, Colorado: Westview Press, 1990).
2. C. Joyce, "Western Medicine Men Return to the Field," *Bioscience*, 1992, 42.5, p. 399.
3. G.L. Boye and Oku Ampofo, "The Role of Traditional Medicine in Primary Health Care in Ghana," in *Use of Herbal Medicines in Primary Health Care; Proceedings of a Meeting of C.M.C.*, Lome, Togo, Amonoo-Lartson, R. (ed.) (Geneva: World Council of Churches Medical Commission, 1987).
4. I. Addae-Mensah, *Towards a Rational Scientific Basis for Herbal Medicine* (Accra: Ghana Universities Press, 1991).
5. C. Quiambao, "Good Medicine, Bitter Pill?" *UNESCO Newsletter of the Regional Network for the Chemistry of Natural Products in Southeast Asia*, 1992, 16.2.
6. United Nations Environmental Program (UNEP), *Saving Our Planet: Challenges and Hopes Nairobi* (Kenya: UNEP, 1992).
7. I. Addae-Mensah, Keynote Address: "The Scope and Prospects of Traditional Medicine in Modern Health Care and Economic Development," in *Traditional Medicine and Modern Health Care: Partnership for the Future; A Report on the Two-day National Consensus Building Symposium on the Policies on Traditional Medicine in Ghana, March 15-16, 1995* (Accra: The Traditional Medicine Directorate, Ministry of Health, 1995).
8. R. Farnsworth, "Screening Plants for New Medicines," in *Biodiversity*, Part II (Washington DC: Academy Press, 1989), pp. 83-97.
9. P.P. Principe, "The Economics and Significance of Plants and their Constituents as Drugs," in *Economic and Medicinal Plant Research*, H. Wagner, H. Hikino and N.R. Farnsworth (eds.) (New York: Academic Press, 1989).
10. A.B. Cunningham, *Ethics, Ethnobiological Research, and Biodiversity* (Washington DC: Worldwide Fund for Nature, 1993)
11. I. Addae-Mensah, *Towards a Rational Scientific Basis for Herbal Medicine*.
12. *Ibid.*
13. The Crucible Group, *People, Plants and Patents. The Impact of Intellectual Property on Biodiversity, Conservation, Trade and Rural Society* (Ottawa, Canada: International Development Research Center [IDRC], 1994).
14. E-I.A. Daes, *Study of the Protection of the Cultural and Intellectual Property of Indigenous People* (New York: UN Commission on Human Rights, 1993), E/CN.4/Sub.2/1993/28.
15. The Crucible Group, *People, Plants and Patents. The Impact of Intellectual Property on Biodiversity, Conservation, Trade and Rural Society*.
16. IBGE, *Anuario Estatístico do Brasil*, Publicações do Instituto Brasileiro de Geografia e Estatística (1985).
17. A. Artiges, "What are the Legal Requirements for the Use of Phytopharmaceutical Drugs in France?" *Journal of Ethnopharmacology*, 1991, 32, Special Issue: L. River and K. Anton

(eds.) *Proceedings of the First International Congress on Ethnopharmacology*, Strasbourg, France, June 5-9, 1990 (Ireland: Elsevier Scientific Publishers Ltd.).

18. *Ibid.*

19. *People, Plants and Patents. The Impact of Intellectual Property on Biodiversity, Conservation, Trade and Rural Society.*

20. *Ibid.*

21. *Ibid.*, p. 32.

22. *Ibid.*, pp. 54-55.

23. W.V. Reid, *Biodiversity Prospecting: Using genetic resources for sustainable development* (Washington DC: World Resources Institute, 1993).

24. *People, Plants and Patents. The Impact of Intellectual Property on Biodiversity, Conservation, Trade and Rural Society*, pp. 90-92.

25. *Ibid.*, p. 11

26. United Nations Educational, Scientific and Cultural Organization, *UNESCO/WIPO Model Provisions for National Laws for the Protection of Expressions of Folklore Against Illicit Exploitation and Other Prejudicial Actions* (Paris: UNESCO, 1985).

CHAPTER VIII

HIGH-TECHNOLOGY, INDIVIDUAL COPYRIGHTS AND GHANAIAN MUSIC

JOHN COLLINS

The impact of technology on the production of Ghanaian music, along with the music's associated values and aesthetics, has two different aspects. Firstly, there are the direct positive and negative effects of hi-technology (videos, computer studios, synthesizers and drum machines) upon Ghanaian popular music.¹ Secondly, there is the indirect effect of technology on music production in Ghana through the introduction of copyright regulations.

Copyright itself is a product of Western printing and electronic inventions, combined with the Western individualistic ethos applied to the arts. Although the idea of individually owned artistic or intellectual property is fruitful in practical terms when applied to contemporary commercial Ghanaian music (i.e. it yields royalties for the author), problems arise when this European-derived notion is applied to the collectively-created and orally-transmitted folkloric music of Ghana. Unlike that of the West, folkloric music in Ghana is very much alive and evolving.

THE MUSICAL GHOST IN THE MACHINE

The dualistic schism between mind and matter of the 17th century French philosopher Descartes has been regarded analytically — since Ryle's critique in the 1950s — as bearing the problem of 'the ghost in the machine'. For the modern urbanized world this also describes the existential state of alienation and anomie often found among those living in a completely technological environment. This environment includes the contemporary soundscape and musical practices that have been transformed by modern recording and mass communication techniques.

I have been running a recording studio in Ghana since 1982 and have noticed a number of technical changes that have dramatically affected local popular music-making. These have resulted in many recording artists and performers becoming lost in the musical machine. The number of tracks in a recording studio has increased to the nearly infinite number available from digital computer systems. This makes overdubbing the order of the day, whereby a single musical technician can provide all of a song's instrumentation. So musicians on stage interacting with a live audience have been superseded by electronic mediation, mobile discos (spinners), videos, television and lip-synching, i.e. television musicians miming to pre-recorded work. Another change that began in the late 1980s is the replacement of drummers by drum machines, horn sections by single keyboard players and guitars by synthesizers. In some cases the entire instrumentation of a band is provided by one electronic instrument, such as the Yamaha computerized keyboard.

Before turning to some of the negative aspects of these technical developments, consider six advantages. Firstly, they make things cheaper for a composer to record, since only a few musicians are needed — in some productions just one musician is sufficient. Secondly, the drumulator and other metronomic-like machines impose rhythmic discipline on the recording session. Thirdly, electronic gadgets provide an instrumental background that has a hi-tech and international flavor. Fourthly, electronics help to democratize music by making it easy for

everyone, even those without musical skills, to become budding pop stars.² Fifthly, given purely analytical motivations, the computer is useful for studying the minute details of complex rhythms, (such as local cross-rhythms), since standard notation is often not precise enough to deal with the tiny spaces between the quavers. Finally, computers are useful for composers making preliminary sketches of their musical works.

Now we turn to some of the main problems for musicians and composers when machines replace performers. Firstly, there is a loss of African content. If one listens to local pop music on Ghanaian FM radio today, one hears mostly vernacular love lyrics sung over a synthesized background, with no local rhythmic content and with no relation between the song melody and the tonal movement of the language. One result is that although this music is patronized by Ghanaian youth, it is not exportable — for no one abroad wants to hear the African variety of World Music without African dance rhythms. Thus, the late famous Ghanaian highlife musician King Bruce, when manager of Accra's *Elephant Walk* studio had a tape made with drumulator returned from the United States, requiring that the band return to the studio to replace the drum-machine track with a live drummer. A number of music journalists have commented on the unexportable nature of current Ghanaian popular music.³

Secondly, the introduction of machines interferes with the flow of creative energy that takes place between musicians in a live context — whether in the studio or on stage. Musicians inspire one another and create new ideas during a performance. For instance, many jazz musicians prefer to be recorded in one take. They prefer to avoid studio overdubbing techniques whereby the whole band never plays as a unit but instead records a few musicians at a time over a number of days. Indeed, the very vocabulary of jazz musicians shows their antipathy towards the excessive use of drum machines and overdubbing. They prefer improvisation, and talk of the music having 'swing', 'play' 'looseness', 'feel', 'soul' and 'groove'.⁴

The same need for 'feel' applies to symphonic orchestras where, despite written scores, the subtle interpretations of the composition are done on the spot by the conductor and virtuoso musicians. This is why Art Music recordings are always made by the whole orchestras in one take and not by a series of overdubs. Yet for today's young Ghanaian pop artists, overdubbing is the norm. This is why some bands now cannot reproduce on stage what they have recorded in a multi-track studio. For example, a synthesized trumpet may appear on a studio recording of a band that has no trumpeter. As a result the band has to mime to its own works on television or even on live stage.

This brings us to a third major problem arising from modern recording and production methods: nowadays, there is little or no direct contact between the performers and their audience. Many older Ghanaian musicians will tell you that some of their ideas have been drawn from the immediate response of their audiences during performances. For instance, formerly singers responded to comments from their audience, or a rhythmic dialogue would take place between the percussionists and dancers. These are age-old folk traditions here in Ghana and elsewhere in the world. A fourth negative consequence of machine music in Ghana is that the clear human voice has been compromised by electronic gadgets such as harmonizers, phasers and double-tracking, and by the fact that the sound level of the singers is often very low as compared with the instrumental background. The sound of the human voice is literally getting lost in the ghostly electronic mix.

Last but not least of these problems is the fact that drum machines and synthesizers are putting percussionists and horn players out of work. For now all the sounds that these musicians supply can be simulated by one musical technician.

All these problems which are now being faced in Ghana began to effect the West in the early 1980s with the fashion of the computer generated disco music of groups like Kraftwerk, Munich Machines and Donna Summers, all playing at an exact 154 beats per minute. However, over the last few years in Europe and North America there has been some reaction against modernistic machine music. One such reaction is a Western back-to-roots movement in which European and American youth have turned partially away from modern sounds towards folk music, non-Western World Music and the recycling of old pop songs from the past. Paradoxically, part of this recycling of the past uses the most advanced techniques. One current trick is the electronic sampling of the sounds of old stars like James Brown and Jimmy Hendrix, and the grafting of their phrases, shouts and guitar-licks into current works. (This, creates enormous copyright problems regarding the length of a sample in order for it to be copyrightable).

A second response of Western artists to electronic inputs has been to 'unplug'. Pop stars such as Neil Young and Eric Clapton unplug their electric instruments and play acoustically. Further, when a drum machine is now used in America and Europe, complementary live percussion (such as hi-hats, timbales and congas) are usually added. An instance is the work of Michael Jackson. In the early 1980s his songs were backed percussively by drum machines alone. But his later recordings use a drum machine on one track and a live drummer on another, carefully blended together to produce a live feel.

A third recent response by Western musicians has been their attempt to humanize electronic music. Ironically, all these effects depend upon the increased sophistication of digital equipment, in particular the increase in 'quantization'. This is the division of a musical measure into incredibly tiny metronomic beats, pulses or kicks. For example Michael Stewart (1987) has devised a 'feel spectrum' for livening up digitally sequenced music. If the drummer plays a few milliseconds ahead of the digital pulse he calls it 'snappy'; if he plays behind, it is called 'groovy'. Likewise David Jaffe (1985) uses 'tempo perturbations' that stagger the attack of the played note in relation to the exact metronomic pulse or kick. Meanwhile Kalle Nemvalts (1988) creates degrees of 'swing' by allowing the duration of the played drumnote to fill differing percentages of the spaces between digital pulses. Travis Charbeneau (1989) utilizes 'time-shifting adjustments' to strike the 64th note ahead of the electronic pulse or behind it. All these rhythmic displacement tricks are attempts to simulate human imprecision, inaccuracy, ambiguity, leeway, and generally to create a more authentically live feel in otherwise mechanically exact electronic rhythms. Another way musical technology is being 'humanized' in the West is through the use of MIDI devices (Musical Digital Interface) that operate between a musical instrument and a computer. These are played in real-time, not the pre-set quantized time of drum machines. An example is the DRUM KAT, which consists of special electronic MIDI pads that are beaten with drumsticks, just like an ordinary drum. The drum strokes create an electronic signal that triggers off the computer's digitally generated or sampled sound. An extension of this idea is found with the Bodysynth. This device is used by the American musician-composer Laurie Anderson. Electronic sensors are stuck all over the artist's body and are triggered by the movement of the musician's or dancer's muscles. Thus the whole human body becomes a musical instrument.

So in spite of the West's general fascination with electronic sounds, recent moves have been developed by musicians and composers to reassert themselves in the three ways just described: via the Western back-to-roots trend, the performance of 'unplugged' pop stars, and the humanizing of music software programs.

After an initial flirtation with local hi-tech popular music during the 1980s, the electronic music scene is beginning to change in Ghana. In 1992 there were audience protests over the low-cost, locally produced, 'lip-synched,' music videos broadcast by Ghana Television (GTV) on the nation's then only television channel during Saturday evening primetime. In response, Ghana Television began a program of live dance band music called "For Your Dancing Feet" which is still running. In the early 1990s there was also a slight waning of the 'spinners' craze amongst the youth and the emergence of a new generation of 'highlife' bands who play for live dances, including The Golden Nuggets, Western Diamonds, the current Marriots Band, Ankobra and Nakorex. Old-time style 'highlife' dances have also been organized by the ABC Brewery and the Ghana Television Club-House, specializing in the highlife classics of the 1950s and '60s. Cassette releases of old evergreen highlife favorites have recently been coming on the market as well, including those by The Black Beats, Tempos, African Brothers, Kakaiku, Alhaji Frempong and The Kumasi Trio.

THE PROBLEMS OF ORAL COPYRIGHT

The legal side of this interface of traditional music and modern technology appears with special clarity with regard to the oral tradition and the issue of copyrights.

The idea of copyright first appeared in 16th century Europe in connection with book publishing. In the 18th and 19th centuries copyrighting was extended to a wider technology and to the fine arts. Because of its origin the notion of copyright carries three basic Eurocentric assumptions:

1. A specific artwork or intellectual idea is created by a single or fixed set of particular individuals; its author is therefore easily identifiable.
2. Older artistic forms rooted in pre-industrial peasant society (i.e. folklore) are public property, because their authors are unidentifiable, hence anonymous.
3. In accord with English law (on which much of Ghanaian contract law is based) there can be no copyright unless a work has been written down, recorded or otherwise reduced to material form. This is a clear reflection of copyright's origin in book publishing.

THESE ASSUMPTIONS AN INAPPROPRIATE FOR NON-TECHNOCRATIC SOCIETIES

Since the 19th century, when copyright really became effective in Europe, there has been a clear demarcation between anonymous folk music, on the one hand, and popular or classical works that are composed by identifiable contemporary individuals on the other. The term 'folk music' applies to pre-industrial art forms publicly owned and preserved in museums and archives — in contrast to individually and privately owned artistic and intellectual creative works. Thus in Europe the realms of the folk-music archivist and the copyright official do not overlap. However, in many non-industrial countries (including those in Africa) there is a living folk tradition simultaneously co-existing with privately owned, creative works. Outside Europe the realms of folklore and copyright do overlap. Indeed the very (European) concept of 'folklore' has to be re-assessed in the context of non-technocratic cultures. Moreover, in Ghana and many other African countries art and cultural works are often not written down nor materialized in any way; they constitute part of a persistent living oral tradition.

There are four specific problems in applying to Ghana and other African countries European assumptions about 'folklore' and 'copyright':

Problem One: The Identification of Oral Works for Copyright

There is a widespread misconception that only literary or other materially recorded works (i.e. printed, scored, choreographed, taped artwork) can generate royalties. On this view, since African folklore is oral, it cannot have a definite, fixed authorship and therefore cannot be copyrighted. This view favors literate artists in affluent technocratic societies at the expense of nonliterate artists based in low-income, nonindustrialized countries. But often the author(s) of oral works can in fact be identified, as noted by Anyidoho and Tsikata (1988). They and Dekutsey (1988) give the examples of the 'unwritten copyright' of Somali poetry and the oral Ewe funeral poems of Akpalu and other traditional poet-cantors. Anyidoho (1983) also highlights the Ewe Haikotu drum clubs in which the composer of the words and tunes first prepares the performance with the other members of the group in closed session, before presenting it to the public. Similar to this practice is the Eguamala dance drumming of the Bendel State of Nigeria, where the known composer and group rehearse for two years in secrecy playing their work publically, as noted by Okwesa (1990). Subsequently, they can sell the whole work outright since initially it is the private property of the group that created it.⁵

Problem Two: The Definition of 'Folklore' in the African Context

In a speech by Dr. Mohammed Ben Abdullah, Secretary of the National Commission on Culture at the 1991 Inauguration of the Ghana Folklore Board of Trustees, folklore was defined to be:

[All the] literary, artistic and scientific works belonging to the cultural heritage of Ghana which were created, preserved and developed by ethnic communities of Ghana or by unidentified Ghanaian authors.⁶

The distinction between folklore and contemporary artistic idioms is simple enough to make in the Western situation where the oral folklore tradition is dead or has to be artificially preserved. But it becomes exceedingly complex to apply in the case of a living tradition as exists in Ghana. This problem was documented in the 1989 report of WIPO (World Intellectual Protection Organization) on "The Protection of Expressions of Folklore." There it is mentioned that one of the major obstacles to creating an international agreement for the protection of folklore is the "lack of appropriate sources for the identification of folklore to be protected."⁷ The following list of nine possible permutations that may occur demonstrates how difficult it is to define folklore, and to separate it from the other contemporary composed performing arts of Ghana. Determining who owns what in this context is no easy task.

Varieties of folkloric or folkloric-inspired Ghanaian musical genres includes the following:

1. Traditional music, dance, drama and poetry that have been created either communally or so long ago that it is beyond the reach of copyright (75 years since the death of the composer(s)). This is 'folklore' in the sense defined above by Dr. Abdullah above.

2. Modern neo-traditional genres (such as Kpanlogo, Akpalu, Borborbor, among others) whereby individual or group composers can be identified and fall within the copyright period (i.e. the composer(s) may be still alive, or the 75 years since their death has not elapsed).

3. Popular dance-music that draws heavily on traditional tunes, forms and poetry: this category includes all contemporary dance bands, guitar bands, concert-party bands and cultural groups that employ combinations of traditional and modern instrumentalists. These groups play music based on traditional highlife, *adowa*, *agbadza* and other folkloric genres, using traditional melodies, poetry, proverbs, lullabies, children's songs, ceremonial songs, work songs, war songs and funeral songs.

4. Popular Ghanaian music of dance and guitar bands that incorporates folkloric or popular music elements from other African countries, with or without a Ghanaian folkloric content: examples include the local Ghanaian use of 'Congo Jazz', South African Kwela music and Senegambian griot music.

5. 'Serious' or 'Art' music that draws heavily on the traditional motifs mentioned in (3) above, but is composed, scored and orchestrated for piano or symphonic orchestras.

6. 'Serious' scored and orchestrated music that includes elements from the folklore of other African countries, with or without a Ghanaian component, such as Pan-African compositions.

7. Commercialized folkloric music used for cabarets and the tourist trade.

8. Government/para-statal/university traditionally oriented dance ensembles that are performed on stage and are professionally choreographed. This is the nearest Ghanaian equivalent to the preserved form of 'folklore' found in Europe and in the United States.

9. European folkloric elements that are incorporated into Ghanaian music. An example is local Ghanaian gospel music that sometimes uses the melodies of old European hymns and folksongs.

Problem Three: Ideology Applied to the African Musical Realm

The European Division of Musical Components that Accrue Copyright Composer Royalties. In the West, composer royalties are divided so that 50 percent goes to pay for the lyrics and 50 percent for the music or melody. In African music, rhythm is so important that royalties should be broken down into three components, namely, lyrics (33 percent), melody (33 percent), and rhythm (33 percent). This issue of distribution of entitlements becomes even more complex when one takes into consideration the fact that African music is often polyrhythmic. That is, not just one but multiple rhythms and cross melodies are used simultaneously. This very complexity created a serious dilemma at the 1981 conference of the International Association for the Study of Popular Music (IASPA) held in Amsterdam. Two officials of an American copyright organization became very excited about a snippet of the tune "Somewhere Over the Rainbow" that they heard in one of Ebenezer Obey's Nigerian Juju songs. They insisted that the American composer should be compensated by the Nigerian one. It was pointed out, however, that they had heard only one of several melodies that were going on simultaneously in the music. There was a Juju refrain, a palm-wine-music guitar riff, a Hawaiian style of guitar, a touch of Fela Kuti's Afrobeat, not to mention the melody of Obey's own voice. So talking about royalties for snatches of a cross melody in polyrhythmic music becomes very difficult indeed, especially for people not trained to hear multiple rhythms. A final point about multiple components is that African music is usually associated with specific dances. So in the African situation, royalty-accruing components could be even further subdivided into four categories, namely: the lyrics,

the melody, the rhythm and the dance-step. African musical composition is far more intricate and subtle in this respect than the simple Western division of components into lyrics and melody.

The Impact of Copyright on Existing Ghanaian Performing Art Norms. A very important point brought up in the (1988) paper on copyright and oral literature by Anyidoho and Tsikata is their explication of the differences between the concepts of composer and performer in Africa and in the West. In Europe and the United States, these two roles are usually quite distinct, whereas in Africa most often the composer and the performer are the same individual. In African oral performing arts there exists what Anyidoho and Tsikata call the "centrality of performance."⁸ Adding to the confusion for a copyright administrator, in African performing arts the audiences often have a creative role, since they are expected to chant, clap and carry out dance-dialogues with the drummers and musicians. This is quite unlike European music (especially the classical variety) where the motionless audience sits quietly and claps only after the performance, or after a significant portion of it, and only then as an interruption, not throughout the whole or as an integrated part of the performance as in Africa.

Another point brought up by Anyidoho and Tsikata is the "great latitude for borrowing, adaptation and improvisation"⁹ that exists in Ghanaian and other African performances. This contrasts with the typical performance in Europe and the US where musical content is fixed by the score sheet and the conductor's baton. Again a problem is posed for copyright administration concerning the degree of originality in a reworked piece of African music, dance or drama. The legal implications of these different artistic norms in Africa and in the West surfaced in 1990 during a Ghanaian High Court case between pianist Ray Ellis and producer Kwadwo Donkor.¹⁰ The pianist claimed rights to some of the composer royalties for the already copyrighted highlife tunes he played instrumentally on the record, since he believed he was re-interpreting the songs he was playing. However, because he had been paid merely as a performing session-man by the producer, Ellis lost the case. This dispute highlights the gray areas between an 'arrangement' and an 'adaptation' of a song. An arrangement is only a readjustment of a musical work's distinct components, for instance the key or orchestration may be changed. According to both the WIPO report and Ghana's PNDC Copyright Law 110, an arrangement can accrue no royalties. An adaptation, on the other hand, is the creation of a fresh derivative of an original work, and so it can attract royalties. An adaptation is what Ellis thought he was creating.

Problem Four: The Risks of Extending Copyright to a Living Folkloric Tradition

Ghana's PNDC 110 Copyright Law of 1985 vests works of Ghanaian anonymous folklore in the state for perpetuity and prohibits their use without the permission of a government Secretary (i.e. a Minister of Parliament) who may charge a fee. This ministerial function was taken over by the Ghana Folklore Board of Trustees when it was inaugurated in 1991. For instance, in 1991 the Ghana Folklore Board received royalties from the American singer Paul Simon for his use of the folkloric melody "Yaa Amponsah" for the "Spirit Voices" song on his *Rhythms of the Saints* record album of the late 1980s. However, due to an ambiguity in the PNDC Copyright Law 110, there is no distinction as to whether it is a foreigner or a Ghanaian national who has to gain permission and pay a fee before using folklore. In 1996 the Folklore Board decided to extend its initially sensible and just policy of collecting royalties from foreigners for Ghanaian

folklore to Ghanaian nationals themselves. This extension of the law to Ghanaians will have at least four negative consequences, listed below.

Governmental Censorship and Cultural Stunting. The idea of the Ghanaian government owning the copyright on the nation's folklore is a reasonable one in light of the potentials for 'First World' commercial exploitation, mutilation, distortion and trivialization of 'Third World' cultural traditions. Yet the extension of this idea to a policy of demanding a fee from Ghanaians for permission to use their own folklore poses serious risks. These risks were noted in the 1989 WIPO report itself. The report discusses the need for "a proper balance between protection against abuses of expressions of folklore. . . [vs.] . . . freedom and encouragement . . . of their further development, dissemination and also adaptation."¹¹

This need for 'balance' was mentioned in Dr. Abdullah's speech of 1991. Anyidoho and Tsikata¹² also point to the danger of "exaggerated claims of state ownership" that could "fossilize and stunt" the development of local oral traditions. Moreover, since there is so much interaction between Ghanaian folkloric and popular genres (unlike in Europe and the US), this stunting could also affect popular music, dance and drama as well. The result would lead not only to a cultural tragedy, but also to an economic disaster.¹³ With the current Western interest in folk-oriented 'World Music', Ghanaian popular performance with a strong folkloric content is a potentially renewable source of foreign exchange for the country. Moreover, the WIPO report itself states that the protection of 'Third World' folklore from 'First World' distortion and commercialization should apply only beyond the country in which it originates.¹⁴ To apply this ruling within Ghana to nationals will have the negative effect of setting up a government or para-statal 'censor' in the arts. Consider the example of local *Kpanlogo*. Although today this genre is considered to be a precious part of Ghana's cultural heritage, initially it was frowned upon by some members of the Arts Council at the time of the genre's inception in the 1960s. They thought the dance was indecent and, if they had been granted the power to do so, they would have banned it from the outset. A similar non-Ghanaian case is that of the popular music in the United States that evolved out of African-American and, indeed, African folk music. If at the turn of the century the American government had been entitled to a policy of preventing the distortion of its own folklore, Blues and Jazz would surely never have become that country's national music. For in their infancy these genres were called the 'Devil's Music' and were associated with lowlife 'Boogie Houses,' 'Jook Joints' and the red-light Storyville district of New Orleans.

In short, the imposition of copyright regulations to constrain Ghanaians attempting to use their own folklore will prevent the commercialization, adaptation and development of Ghana's own indigenous musical heritage. This will wholly discourage the overall promotion of that heritage — in contrast with the renaissance of musical traditions that has occurred in Western countries. For in European countries and in the Americas, prohibitive laws are not imposed on nationals using their own folklore, since folklore is considered to be part of the public domain. Ghana will therefore disadvantage itself vis-a-vis these nations by putting an actual disincentive on contemporary Ghanaian musicians who manifestly want to recycle and adapt ancestral works to their own modern era of music.

The Problem of the Same Folklore Existing in Two or More African Countries. The 1989 WIPO report notes the problem of similar folkloric genres existing in several countries.¹⁵ This is particularly pertinent to Africa where the national borders do not always correspond to ethnic

ones. Anyidoho and Tsikata discuss the examples of the Dagarte people and the confusion that can arise from Ghana's 'nationalizing' a folklore that also exists outside its geographical borders. They remark that "Burkina Faso has as much right as does Ghana to claim Dagarte folklore as its national cultural heritage."¹⁶ Similar examples are the Agbadza dance music found both in Ghana and in Togo, and the Adowa dance music found both in Ghana and in Eastern Cote D'Ivoire. There are also traditional musical features and rhythms in Ghana (such as the bell pattern of Tigari) that one will find located all over Africa. The correct classifications arising from these folkloric overlaps will therefore involve copyright organizations from all over the continent.

Possible Negative Consequences for Ghana's Creative Cultural Development Resulting from Folkloric Fees on Ghanaian Nationals. It is worth spelling out how taxation extracted from Ghanaians for their use of folklore may damage the local contemporary performing arts. Firstly, fee charges for using local resources could lead to an ever increasing adoption of foreign music by Ghanaian artists already heavily under the influence of imported music. Secondly, in order to circumvent such taxes, Ghanaian musicians may resort to utilizing African musical styles found outside Ghana that resemble Ghanaian ones (e.g. the Agbadza, Adowa, Tigari and Dagarte folklore). To illustrate this potential problem, we can imagine the 18th century when there was a living folklore in Britain as there is now in present-day Ghana, with an area of artworks being created by known individuals. Suppose an alien agency had suddenly appeared in Britain at that time and persuaded the King and Parliament to 'nationalize' and tax their folkloric works. This would have been a calamity for subsequent British popular and classical music, particularly that of the 'Romantic' composers of the 19th century since much of their work was based on their own local folklore. As a result, British Romantic composers might have gone to other European countries where the tax law did not apply, and consequently they would have helped to develop those other national cultures instead of their own.

The State Versus the Locality. There is yet another foreseeable negative consequence of the Ghanaian state collecting royalties and granting permission for Ghanaians to use their own folklore commercially. It may lead to a future full of conflicts between the central government and ethnic regional leaderships over the ownership of folkloric works produced in a particular province. The state claiming univocal ownership of all Ghana's anonymous folkloric works could create tensions with groups that have communally created and established distinct genres of folklore. In the case of performance, such groups would include musical families, age-sets, *asafo* (warrior) companies, traditional religious cults, secret societies, musical clubs and guilds, and chiefs' courts. For instance, the *goje* or one-stringed fiddle music of the Dagomba people of northern Ghana is in the hands of specialized praise-singing guilds composed of men who hand down their skills and repertoires to their sons. Another case in point is the *adowa*, *kete* and other drum-dances, which belong to the Asante royal court in Kumasi.

So who owns this music? Is it the property of the Dagomba guilds and the Asantehene (the Asante King)? Or does it belong to the centralized state? A modern state, unless it is totalitarian, can never own a people's indigenous culture. The state is a custodian of that culture. In principle, a country's anonymous traditional culture is the inalienable property of those individuals, groupings and ethnic communities who comprise the sovereign nation. As far as a country's nationals are concerned, the nation's folklore should be a component of the public domain and not the property of any agency in the state's bureaucracy. From a practical standpoint, the

possibility of legal disputes between the central state vs. ethnic, clan, religious and other provincial groupings over the property rights to traditional artistic works is too awful to contemplate. Such conflicts do not now and never have transpired in the Western industrially dominated nations; and they are quite as unnecessary in industrially austere nations such as Ghana.¹⁷

NOTES

1. Part I of this chapter is based on a paper presented by the author at the Composers' Forum and Workshop of the International Center for African Music and Dance, at the University of Ghana, Legon, August 9-13, 1994. Part II is based on a presentation given by the author at the National Workshop on Copyright organized by the Ghana Copyright Administration and National Commission on Culture in Accra, October 1991.

2. For instance in Holland, with around 50 US dollars one can go to a special instant-music studio for a couple of hours, buy a readymade rhythm, do a voiceover and walk out with a record.

3. Here are some journalistic examples of both foreign and Ghanaian disdain for current hi-tech Ghanaian popular music. The Stern's African Record Center *Tradewinds* magazine (Vol. 5, No. 5 September/October 1994, London) praised the Ghanaian highlife musician Jewel Ackah for not featuring "that horrible cheap drum machine that seems to be everywhere (in Ghana) recently." Baba Abdullai, writing about the Danish 'Image of Africa '96 Festival' in an article entitled 'Why Highlife Wasn't There' (*Ghana Weekly Spectator*, July 13th, 1996, p. 4) suggests the reason the festival organizers picked Senegalese and Malian musicians and not Ghanaian ones is that the former "rely heavily on percussion (whereas) our highlife is weak on percussion and heavy on digital sound." Dave Yowell of the *Sultan* recording-studio in London, which often records Ghanaian artists, complained in a *Ghanaian Statesman* article called 'Let's Hear It Live' (May 21st 1995, p. 10) that "in West Africa now, it seems there is too much emphasis on the use of computers . . . when you only have a singer and a computer you have the personality of the singer and zero personality of the computer." In an article called "Singing the Blues" in the *West African Journal* (Dec. 18, 1996, p. 1286), K. Krante bemoans modern Ghanaian highlife saying that "reeling off a string of wise sayings over a computer-generated soundtrack should not automatically confer hit status on the song or singer. . . . It seems that mediocrity has been elevated almost to an art. Technology has contributed more than its fair share to the situation. Twenty years ago real live musicians would have been needed to cut an album."

4. Many musicologists refer to this subjective and flexible side of jazz playing. Thomas Owens (1974) observed that the measures of the jazz saxophonist, Charlie Parker, fluctuated throughout his performances. Richard Waterman (1952) saw these features of improvisation as a result of the musicians' own "internalized metronome sense." Charles Keil (forthcoming) and Joe Proglor (forthcoming) call minute and subtle offbeatings "participatory discrepancies." Peter Reinholdsson (1987) has used a fixed metronome to demonstrate the anticipation ('push') and delay ('laidbackness') of the beat by various jazz bassists. Paul Berliner has recently written a full book on this topic, *Thinking Jazz: The Infinite Art of Improvisation*.

5. Two other Ghanaian examples of obscured attribution of oral artistic property are the Kpanlogo and Borborbor neo-traditional dance-music styles. These are often regarded in Ghana as anonymous folkloric works of the Ga and Ewe people respectively. However, Kpanlogo was created around 1962 in Accra's Bukom Square by Otoo Lincoln, together with drummers Okulay

Foes and Ayitey Sugar, and dancer Frank Lane. It was Otoo Lincoln and his group who composed the songs 'ABC Kpanlogo', 'Alolodzan' and 'Ayine Mombiye,' cf. Collins (1992; 1996, chapter 4). Borborbor is an Ewe recreational music that was created in Kpando in the Volta Region around 1950 by the Kpando Konkoma Group. One of its leaders was Francis Cudjoe Nuatro or 'F.C.' who wrote '*Mabia Dzogbe Nye Se*' (Badasu, 1988).

6. Speech typescript, p. 2.

7. P. 11.

8. Anyidoho and Tsikata, (1988).

9. *Ibid.*, p. 8.

10. *Ghana Copyright News*, November 1990.

11. P. 4.

12. *Op.cit.* (1988).

13. Other economic difficulties directly consequent upon the degradation of culture are detailed by Anyidoho in "Culture and the Human Factor in African Development," this volume.

14. WIPO Report, p. 10.

15. *Ibid.*, p. 11.

16. Anyidoho and Tsikata, (1988), p. 8.

17. At the time of writing this essay the Ghanaian Copyright Administration was in the process of putting forward to Parliament a revised Copyright Bill that included extending the folkloric tax imposed on foreigners to Ghanaian nationals. However, since mid-1997 a number of local music and artistic organizations have strongly objected to this.

REFERENCES

Abdullah, Mohammed B. (1991) Speech at the Inauguration of the Folkloric Board of Trustees, NCC Offices, September 12.

Amegatcher, Andrew. (1990) "Recent Copyright Cases," *Ghana Copyright News*, vol. 2, December, p. 12.

Anyidoho, Kofi. (1983) "The Haikotu Song and Dance Club of Wheta: A Communal Celebration of Individual Poetic Talent," in *Cross Rhythms*, Anyidoho et al (eds.) Bloomington, Indiana: African Folklore Publications.

Anyidoho, Kofi and Tsikata, Fui. (1988) "Copyright and Oral Literature," delivered at the *1st National Conference on Oral Literature*, August 23, Accra.

Badasu, Ambrose. (1988) "Tribute to F.C. Boriginator of Borborbor" *Ghanaian Times*, June 3, p. 4.

Berliner, Paul. (1994) *Thinking in Jazz: The Infinite Art of Improvisation*, University of Chicago Press.

Charbeneau, Travis. (1989) "Rehumanize Your Sequence" Pt. 5, *Music Technology*, June, pp. 42-46.

Jaffe, David. "Ensemble Timing in Computer Music," *Computer Music Journal*, 9. 4, pp. 38-48.

Keil, Charles. "The Theory of Participatory Discrepancies: A Progress Report," *Ethnomusicology*, forthcoming.

Collins, John. (1985) *Music Makers of West Africa*, Washington DC: Three Continents Press.

----- (1992a) *West African Pop Roots*, Philadelphia: Temple University Press.

- . "Folklore: Some Problems of Copyright," *Ghana Copyright News*, Jan. 1991-Dec. 1992.
- . (1996) "Highlife Time," *Anansesem Press*, Ghana.
- Dekutsey, Wilson. (1988) "In Honor of Akpalu," *West Africa*, November 21-27, pp. 2180-2190.
- Nemvalts, Kalle. (1988) "Sequence the Swings with Performer," *Electronic Musician 110*, March, pp. 60-69.
- Okwesa, Fidelma. (1990) "The Problems of Collecting Data for Dance in Nigeria." Paper delivered at *Audio-Visual Archives Conference*, Falun, Sweden, July.
- Owens, Thomas. (1974) "Applying the Melograph to 'Parker's Mood'," *Selected Reports in Ethnomusicology*, vol. 2. 1, pp. 157-175.
- Progler, Joe A. "Searching for Swing: Participatory Discrepancies in the Jazz and Rhythm Section" *Ethnomusicology*, forthcoming.
- Reinholdson, Peter. (1987) "Approaching Jazz performances empirically: some reflections on methods and problems," in *Action and Perception in Rhythm and Music*, A. Gabrielsson (ed.), Royal Swedish Academy of Music No. 55.
- Stewart, Michael. (1987) "The Feel Factor: Music with Soul," *Electronic Musician*, October, pp. 57-65.
- Waterman, Richard. (1952) "African Influence in the Americas," in *Acculturation in the Americas*, (ed.) Sol Tax, University of Chicago Press, pp. 207-218.
- WIPO. (1989) General Introductory Course: *Copyright and Neighboring Rights: Protection of Expressions of Folklore*, Geneva, Switzerland.
- Young, Neil. (1992) "Digital is a Huge Rip Off," *Guitar Player*, p. 14, May.

CHAPTER IX

THE IMPACT OF NEW MEDICAL TECHNOLOGY UPON ATTITUDES TOWARDS EUTHANASIA AMONG AKANS

KWASI AGYEMAN

Advancement in modern medical technology has unleashed both relief and challenges to human beings everywhere. Regardless of where one lives, there is no immunity to the radical and sweeping revolution in medical intervention technology. Nowadays machines are even breathing for human beings. Advances are so cumulative that the standard definition of biological death is being revised constantly within the medical research world, especially in light of successes with organ transplantation. The main questions addressed in this essay are: How do contemporary Akans of Ghana¹ regard the practice of euthanasia? And given the current emphasis on civil rights in public discourse, how do Akans understand human rights and dignity, individual freedom and integrity, when considering the possibility of medical intervention in matters of life and death?

The Akans, believing in *nkrabea* (destiny), appreciate human mortality to be inevitable. This fact is itself not a provocative issue for an Akan: it is a simple and unalarming fact that each person must die. What is highly contentious for Akans is the appropriate human response to the controllable state or condition under which the event of a human death takes place. Hence for Akans the questions that concern dying quite naturally are these: Should one interfere with the circumstance or state of affairs that prevails when a death occurs? If so, what should be the extent of such interference?

Fifty or so years ago, no one would have ventured to ask such questions because of the belief that one only attracts evil upon oneself by talking about tampering with 'nature', destiny or taboo — and for the Akans, death constitutes all three of these. On a general scale, it is safe to maintain the belief that *nkrabea* is dear to the Akans, particularly where life and death issues are at stake. The absolute sanctity and dignity of life, as well as reverence for life, and the analytic claim that every event has a cause, are among the everyday truisms which go unquestioned even when state-of-the-art medical wonders appear to challenge the given realities of the natural world. Such convictions concerning *nkrabea* or destiny run contrary to approving of euthanasia. Euthanasia requires that one be assisted by another in one's dying — either by their act of omission or commission. Mercy killing (passive or active) raises questions of moral legitimacy about one's right to bring about the death of another, given that he or she appears in dire need of release from life. For the Akan, there would be no euthanasia, let alone the problems associated with it, were it not the presence of *another* human agent involved in the action.

THE AMBIGUITY

On the one hand, the Akans have a belief expressed in the saying: *Fedee ne owuo a enee fanyinam owou*. [Given humiliation or indignity versus death, the Akans prefer death]. This wisdom certainly condones euthanasia. On the other hand, belief in *nkrabea* is very strong. Destiny not only transcends all human ability to resist it, but any human attempt to resist it is regarded as evil and self-denigrating. Therefore the Akan's attitude to the course of destiny, i.e. to any act of nature or of God, is one of wholly complacent receptivity. So there exists a moral tension between humble acceptance of destiny and noble preference for death over a life of

indignity and humiliation. If a suicide is performed, its legitimacy is acknowledged by an Akan, but at the same time it is generally regarded as staining the honor and dignity of the family and clan of the suicide.

Given this ambivalence, what may be troubling to an Akan about euthanasia — as distinct from suicide — is not that the individual chooses to take his or her own life, but rather that *another* human agent is involved in the demise of a human being. In other words, if euthanasia were suicide, then there would be little to fuss about for an Akan, since a suicidal death is preferable to an ignominious or humiliating life. But since euthanasia necessitates the intervening agency of another person, the Akan's attitude towards death here is not so sympathetic. For what justification does one person have in killing, or in assisting to kill another person deliberately by passive or active works? Is this not interfering with nature, or playing God?

To defend 'mercy killing' by appeal to the fact that it has been invited, contracted and is legally permissible, is unacceptable to an Akan. And yet certain circumstances require the cooperation of others in order for an individual to take his own life. So one might question the Akan's claim that everyone has a 'right to die in dignity'?

In this era of our nation's 'infant democracy', human rights issues are at the forefront of Ghanaians' continual struggle for the defense and protection of their individual freedoms. The 'right to live and die in dignity' is just one of many contested civil rights that have recently earned considerable attention. Nowadays, radio and television exposes the Ghanaian public to debates and controversies on all topics. Individuals feel that they should be free to interrogate the authority and legitimacy of ancient taboos, norms and traditional beliefs about life, death, marriage and family. The public is no longer taking traditional views for granted, but rather testing and challenging them. For example, economic conditions today have reinforced and intensified the youth's unfavorable attitudes toward polygamy, raising many children and other traditional extended family practices including a host of financial and ceremonial obligations beyond the nuclear unit. One might suppose it is consistent for the contemporary Ghanaian to challenge his tradition's passive submission to destiny as well. However, in the case of euthanasia and the modern technological ability to control the time of death's occurrence, the Akan would still unequivocally disapprove of mechanistic intervention to pre-empt a painfully slow death. In the Akan's mind it is the height of presumptuous folly — dangerous and futile — to fight with God. *Nkrabea* rather should be left alone, respected and appreciated.

Thus the Akan's negative attitude towards euthanasia is grounded on two principles. First, the sanctity of *nkrabea* psychologically prohibits entertaining ideas about tampering with the pace of dying. Secondly, the Akan's logical objection to euthanasia is that its defense may be based on a conceptual confusion about the nature of a human right.

THE 'RIGHT TO LIFE': A CONCEPTUAL CONFUSION?

For the sake of argument, suppose that if one chooses to die, then one has a right to die; in accord with the defendant of euthanasia: 'It is *my* life. So if I see in it no worth, nor good, nor meaning, nor happiness or purpose — but only irrevocable pain, prolonged suffering and an impending death — then if I do not want it, *morally I am not obliged to keep it.*' If one chooses to die, then one must be permitted morally to die as one desires. On first consideration this argument appears simple, clear and reasonable enough; because forcing someone to live an unwanted, useless, suffering, painful and dying life against his or her will seems to be a species

of cruel and unusual punishment, which is uncontroversially a bad practice. But on closer examination the argument is not as simple as it looks.

The focus of the objection here lies in this assumption: if one's life is indeed one's very own — one's private property, as it were — then one should be morally entitled to do with it as one wishes, including terminating it. That is, one has a moral entitlement to give consent or to permit oneself to die. Proponents of euthanasia respect the right of an individual who gives such consent to follow through with the expressed intention. They seek legislative and statutory backing from governments to defend such a freedom. But consider the source of this right: it seems to be one that is granted as a self-given entitlement. This strictly *self-given right*, therefore, appears to be an entitlement that each and every one has according to their desire. So when I exercise or want to exercise the desire to die, I thereby give to myself (or thereby simply exercise) my own right to die as wish. But then the proponent of euthanasia seems to be saying that *your* right to die is just as irrevocable, valid for you, as mine is for me. This is so because the desire is subjective; its validity is justified solely in virtue of its authenticity. It follows that if I really want to die, then I thereby have the right to do so. Therefore the occurrence of a desire in a mad person is just as irrevocable and valid for him as the occurrence of a desire for a sane person. The desires of the patient are as authentic and therefore as valid as those of the doctor; the preference of the expert is as valid as that of the ignorant; a pro-attitude of the wise has the same status as a pro-attitude of the fool, and so on. Such a right as follows inherently from the occurrence of a desire holds for whoever claims genuinely to be aware of the occurrence of the desire. Strictly speaking on this view, no one — sick or healthy, poor or rich, stupid or wise — can be challenged or turned down in the exercise of this purely 'subjective' right on any grounds whatsoever. But the threat of absurdity must surely force us to draw a line somewhere concerning the validity of this entitlement. If no interference can be permitted in the exercise of this relativistic 'right to die' then we are in practical trouble. For in practical terms there needs to be some criterion for determining the validity or coherence of an individual's claiming this right: he or she must be of sound mind, fully apprised of the available alternatives, under no external duress, free from psycho-physiological compulsion, and so on. From an Akan's point of view there is, therefore, an inherent difficulty that arises from this *ipsilateral*, purely subjective 'right to a dignified life or death'.

Arguably, this subjectively determined right can be defined in a way that specifies conditions for its legitimacy. Then there remains a second logical basis for objecting to euthanasia. Let us suppose that A has a right to die if A wishes, with no moral culpability. But then for A to elicit B's merciful assistance in dying raises questions about the civil legitimacy of B's execution of the requested help. For the use of this help ends a human life that is not B's own. The question arising here is whether a subjectively determined right or entitlement is transferable to a second agent. When euthanasia is performed, the individual always incurs another person's merciful help to die as desired. In this respect euthanasia is critically different from the standard case of suicide. In the Akan's mind, it is this introduction of another moral agent into the act of intentionally terminating a human life that breeds insuperable moral complications.

CLAIMING THE UNCLAIMABLE: ANOTHER CONCEPTUAL CONFUSION

More profoundly, it does not make sense to talk seriously about having rights at all where they cannot objectively exist. In the Akan's view, such is the case with one's claim to life or to

death. If these are events that lie beyond human power to bring to pass, then it does not make sense to seriously talk about having a *right* to control them. Whereas an individual may have access to a drug or machine that will end his life if it is working properly, he does not determine whether the drug or machine will in fact work properly on the occasion that he is relying upon it. God determines this. For the Akans, we neither choose nor design our individual lives, of which we are each but a manifestation. Nor is it the event of death over which we mortals have control. It is, rather, the *conditions* under which a life transpires or a death occurs that humans may control; we may be able to do as we please in this respect alone. Hence it is in this limited respect of controlling the conditions under which a death occurs that one can meaningfully condone or decry the practice of euthanasia. A category mistake is being committed if one assumes that one is free to choose, select or pick which *kind* of death or life one wants in the sense that one is free to select the style and color of one's shoes. Indeed, if we were actually capable of choosing or picking the type of life or death we are to undergo, there surely would not be any need for the practice of euthanasia in the first place — let alone any basis for concerning ourselves with the moral problems entailed by it. For we each would choose the best life there is for ourselves — or, to use Rilke's words, the most

. . . polite death of the better circles with which, so to say, the funeral first class and the whole sequence of its touching custom begins . . . one that is so agreeably, and with so much gratitude toward doctors . . . and nurses, one would die a death prepared by an institution.²

Talking about one's 'right to life' or 'right to die' — in the Akan's view — exposes a conceptual confusion about the very nature of life and death as properties attributable to oneself.

For the reasons just discussed, it is rather the conditions of one's life and death — not the very occurrence itself — that one may coherently regard as the object of entitlement. Thus one may coherently claim to have a right to remain free from conditions characterized as cruel, inhumane, unnecessary and unusual suffering or punishment. Thus viewed by the Akan, what is morally significant and a matter of ethically responsible choice concerning euthanasia is that this practice yields certain *conditions* of death. It is not the event of death itself via euthanasia that is a matter of human deliberation or moral culpability. It could not be; for God alone is responsible for the event itself. Human controls can rather fashion a kind of 'living death' whereby a person is made a biological appendage to some machine in order to sustain life. This might strike the Akan as an utterly shameless lust for physical survival. Alternatively, a human death can be designed via euthanasia to forestall a humiliatingly or excruciatingly prolonged dying process. Under certain conditions, then, the Akan point of view may be sympathetic to euthanasia, since the practice may be an expression of a noble aversion to indignity or ignominy. At the same time, an Akan might be averse to associating with an expert in this medical practice who hastens or facilitates the death of another with the motivation of 'mercy killing'.

In sum, the impact of modern medical technology on the Akans' cultural attitudes is to accentuate a profound ambivalence concerning euthanasia, the aged and the infirm. An Akan would neither live in shame, nor play God. The former moral imperative impels an Akan to sympathetically approve of euthanasia as a noble alternative to an artificially perpetuated life dependent upon the vain heroism imbibed in modern medical machinery. The latter instinctive distaste for presumption would certainly motivate an unsympathetic disapproval of practicing euthanasia on two grounds:

(1) The practice entails a confused presumption of individual entitlement, based on a mistaken conception of living and dying as attributes that an individual can freely pick and choose for himself.

(2) One might extend the grounds that the practitioner appeals to justify committing euthanasia, and further justify killing 'on request'. This has disturbing consequences for society overall. Even without such implications, the practitioner of euthanasia acting on another's behalf, appears to be 'playing God' and thereby exhibiting an unseemly lack of respect for *nkrabea*. The Akan's ambivalent attitude towards euthanasia is an expression of a fundamentally consistent moral aversion both towards 'playing God' and towards living in ignominy.

NOTES

1. 'Akan' is a fluid linguistic category depicting communities in the central and southern belts of Ghana who are neither Ewes nor Gas, and who speak Twi or Fante as their mother tongue and usually can understand both. Some groups whose identity was formerly distinct are gradually becoming Akan; for instance separate television programming exists for Akan and Nzema speakers, but nowadays an Nzema might take offense if you suggested she or he is not Akan. Correlatively, the Wassaw language is disappearing with disuse as Wassaws nowadays exhibit a preference for Twi or Fante and thus identify themselves as Akan.

2. Rilke, "The Notebook of Malte Laurids Brigge," in Kaufmann (ed.), *Existentialism* (New York: Meridian Books, 1956), p. 114.

REFERENCES

- Ackah, C.A. (1964 [1988]) *Akan Ethics*, Accra: Ghana Universities Press.
- Agyeman, K. (1985) *Human Rights: An introductory philosophical perspective*, Toronto: Emerson House.
- Danquah, J.B. (1944) *The Akan Doctrine of God*, London: Lutterworth.
- Gyekye, K. (1978) "The Akan concept of a person," *International Philosophical Quarterly*, 18, pp. 277-287.
- . (1973) "Philosophical Relevance of Akan Proverbs," *Second Order*, 2, pp. 45-55.
- . (1977) "Akan language and the materialist thesis: a short essay on the relation between philosophy and language," *Studies in Language* I, no. 2, *African Cultural Values*; Philadelphia: Sankofa.
- Hagan, G.P. (1965) "Some Aspects of Akan Philosophy" MA thesis, Institute of African Studies, University of Ghana, Legon.
- Minkus, Helaine K. (1980) "The Concept of Spirit in Akwapim Akan Philosophy," *Africa*, 50, no.2, pp. 182-192.
- Rilke, Marie (1956) "The Notebook of Malte Laurids Brigge" in Walter Kaufmann, *Existentialism*, New York: Meridian, p. 114.

CHAPTER X
POPULATION GROWTH AND ECOLOGICAL DEGRADATION
IN NORTHERN GHANA: The Complex Reality¹
JACOB SONGSORE

INTRODUCTION

As people struggle to improve their well-being, it is the environment that provides the materials and at the same time frustrates the effort. Reinforcing the interconnection between human aspiration and ecological integrity is the underlying theme of sustainable development. "Accumulat[ed] evidence from ecology, agronomy and hydrology indicates that sustained over-use of biological systems can set in motion changes that are self-reinforcing. Each stage of deterioration hastens the onset of the next."² Every land area has a carrying capacity beyond which it cannot be utilized without causing damage, deterioration and decreased productivity. This long neglected ecological rule is suddenly dawning on humanity at the global, continental, national and regional levels.

Whereas the rich industrial North accounts for a mere 23 percent of the world's people, its population earns 85 percent of the world's income. "The strains of this level of economic activity are felt in the loss of forests and species, the pollution of rivers, lakes and oceans, the accumulation of greenhouse gases and the depletion of life-preserving ozone."³ It is therefore an undeniable fact that the rich minority threatens the wider ecological integrity of humanity's existence. As one expert puts it:

From the point of view of a simple population head-count, China, India, Indonesia and Brazil might be regarded as jeopardizing the future of the Earth's resources, but, using a resource demand index, this risk is more fairly placed at the door of the USA, Japan, Germany, the UK, Canada and Russia. In the case of Indonesia, the USA exceeds its resource demand by a factor of 50. It is not difficult to see where the population control effort should be applied! Sweden as a country with a mere 8.6 million people exceeds the resource demand of Bangladesh (116.4 million) by some 15 times.⁴

The poor 77 percent of the world's people, like those in Northern Ghana, are also generally recognized as threatening the ecological integrity of their limited life spaces — albeit through sheer necessity rather than through excess. These are the so-called 'dead-end' societies for whom it is argued that little prospect exists to substantially improve the lives of more than a few people, granted today's international configuration of power relations.⁵ Given this neo-Malthusian global environmentalist vision, it is not surprising that issues of environmental degradation have often been articulated too narrowly — indeed, mistakenly — in terms of the growing numbers of the poor. Hence narrow solutions are sought in terms of population control.⁶ This approach is also fast becoming a convenient ploy for some governments in Africa. Relishing their opportunity to retreat from the costly developmental role of the state, such governments substitute in its place the crude barbarism of unmitigated 'free market' forces. They hide behind arguments that blame peasant sexual proclivities as the cause of the developmental impasse. They deflect from the fact that environmental degradation is caused rather by failures of

governance and by inadequate technological responses to the emerging challenges of industrial development. As I seek to demonstrate in this chapter, it is clear that ecological degradation is a more complex process than simply being an effect of Nature's reaction to peasants' over-breeding.

The object of this overview is to correct common misperceptions of the relation between population growth and ecological degradation in Northern Ghana. The future of our people and of our many societies comprising one nation depends partly on realizing that ecological degradation processes in Northern Ghana are as much socially and politically determined as they are physically and geographically. These ecological changes do not result from growth in population alone, even though population is an important element. Spelling out the complexity of these processes is necessary in order to map out a viable development strategy that satisfies the immediate aspirations of our people for economic development whilst maintaining development opportunities for future generations. This chapter presents: (a) an ecological model of the complex relationships between population, technology, culture and the environment as an organizing framework; (b) a brief discussion of the impact of the technology of production, market forces and the role of the state in the ecological degradation process; (c) the processes of agro-ecological change under demographic pressure; (d) an analysis of agro-ecological regimes that have evolved under the impact of population growth; and (e) some suggestions for strategizing to support sustainable national development.

The geographical focus of this discussion is the whole of Northern Ghana, which comprises the Upper West, Upper East and Northern Administrative Regions of Ghana, Fig.1 on the next page. It has a land area of 98,000 square kilometers which is about 41 percent of the total land area of Ghana. By contrast, its share of the total population is less than 20 percent. It lies within the rather fragile Guinea Savannah agro-ecological zone, except in the extreme north-eastern corner where the even more fragile Sudan Savannah takes over as the dominant bio-climatic type. Rainfall is the major climatic element that has a strong influence upon animal and plant life, hence upon the cycle of agricultural activity because of its seasonality and variability from year to year. These uncertain climatic conditions get worse towards the extreme northern frontier with Sahelian Burkina Faso.

The economic base of the area hinges on smallholder agriculture with over 80 percent of the population depending on agriculture for their livelihood. The overall absence of modern industry in Northern Ghana is glaring. Currently this region contributes a mere 1.3 percent of the total number of Ghana's industrial establishments, 0.3 percent of total value added, and another mere 0.7 percent of total number of persons employed in industries staffing 30 or more people. Together with the low levels of urbanization in the Upper West (8.5 percent), the Upper East (10.8 percent) and the Northern Region (24.7 percent) this simply emphasizes the region's rurality.⁷ In 1988 there were only 45 bank offices, which amounted to a mere 8.6 percent of the country's bank offices. At maximum the ratio of inhabitants to banking outlets reaches over 1:58,000 with areas of 5,300 square km. This very low bank density seems to be one reason why the entire North accounts for only 3.0 percent of all formal sector credit and 2.8 percent of all formal sector deposits in the country.⁸

In terms of human development indicators, although the northern savannah regions account for a mere 20 percent of the national population, they contain about 60 percent of the poorest tenth of the national population.⁹ The health and nutritional conditions of the people in these regions are among the worst in the nation. For instance, these regions have the bleakest doctor/population ratios and hospital-bed/population ratios. As another result of colonial

administrative policies, Northern Ghana has both the highest levels of illiteracy and the lowest levels of school enrollment. While all regions other than those of the northern sector had over 70 percent of their six-year olds in schools in 1984-85 the proportions of six-year olds in schools in the Northern, Upper East, and Upper West Regions were 30.95 percent, 36.23 percent, and 37.95 percent, respectively. In terms of investment flows, these three regions are the most deprived as well. Despite their comprising 20 percent of the total country's population, the actual capital expenditure for education in these three regions for 1992 was only 11.6 percent of the annual budget for the entire nation.¹⁰ This brief profile of the social and economic conditions is sufficient to set the stage for a realistic analysis of the interactions between population and environment.

THE COMPLEX RELATIONSHIP BETWEEN POPULATION GROWTH AND ENVIRONMENTAL DEGRADATION

Subscribers to the neo-Malthusian orthodoxy of population theory put great emphasis on population growth as an independent variable accounting for generalized land degradation. Yet the evidence from human ecology research indicates that population growth is just one variable whose influence on the integrity of the environment depends in turn on the existing socio-political conditions of the society. Fig. 2 suggests a model for this ecological system of interactions.

According to this scheme, the ecological matrix of a region or of any territorial unit consists of its *environment, population, technology, organization* and *culture*. Here, 'population' refers not only to the numbers of people but to density, age-sex composition, occupational structure and, above all, the quality of the trained human resources in the region. 'Environment' denotes the natural environment and its resource base on the one hand and the man-made physical environment on the other.

'Technology' refers to both the material means and the knowledge available to utilize natural resources and to overcome environmental challenges. 'Organization' refers to existing political relations and economic structures that play important roles in determining the system of material reproduction on a continuing basis. 'Culture' refers to the ideational sphere of beliefs, values, norms, ideologies, customs and social practices.¹¹

Since this model is applicable to different territorial scales and levels (i.e. local, district, regional and national) it is important to locate this scheme within a wider political economic environment. This wider domain provides a significant structuring force that limits the capacity for action at lower levels. In Ghana's case this outer boundary consists of the country overall and, at a higher level, the international political economy. The various components of this model are interrelated in such a way that a change in any one of them is likely to induce adjustments in the operation of the other systems. Population growth as an isolated numerical structure does not function autonomously; rather it influences and is influenced by the other variables.

Commoditisation, Rural-urban Terms of Trade and the Role of the State in Ecological Degradation. In most of Northern Ghana we find agricultural 'mining'¹² going on because the socio-economic system wherein the farmers are trapped encourages diverse forms of social exploitation. In their turn, these exploitive burdens are transferred to the natural environment. Further, the profit motive in the area's post-independence agricultural development has led to a large-scale exploitation of its ecosystems, without concern for the ecosystems' replenishment.

This can be observed in large-scale mechanized farming and rural-urban terms of trade. Agricultural or soil ‘mining’ is a robber economy. When land is used in an extractive, non-sustainable way, the output is not replenished by inputs; so the integrity of the soil is destroyed. This results in deteriorating output, which in turn leads to progressively worse deterioration of the soil, water and vegetative resources of the land.

Technology of Production and the Ecological Crisis. In the past, traditional methods of agriculture (such as bush fallowing, shifting cultivation and pastoration) have all been based on technologies which adapt the agricultural system to the environment by allowing ecological recuperation over moderately long periods of time. Given low population densities and minimal pressure for either the cultivation of industrial raw materials or food for urban markets, these systems worked well since they relied on natural regenerative processes to recuperate the soils and to maintain ecological balance. With rapid population growth, urbanization and the need to produce raw materials for industries and the world market, the limits of the traditional farming systems have become all the more glaring. Physical constraints to production include the reliance on rainfed agriculture and the problems of drought, together with low soil fertility and the problems of pests. Biological constraints include the prevalence of genetically unimproved crops and undeveloped breeds of livestock. Technological constraints include the use of the hoe and the dibble stick which lead to the drudgery of farm work.¹³

Lacking faith in an evolutionary approach to development that is based on improving appropriate techniques derived from indigenous knowledge, there has been a rush to indiscriminately apply Western technologies that are generally unsuited to tropical agriculture. A case in point has been the widespread misuse of tractors on delicate tropical soils which only encourages erosion, laterization and desertification through the large-scale clearance of trees. Soil structure and chemistry are disturbed by deep ploughing, and soil compaction is caused by heavy machinery. These are all consequences of:

1. the quick fix solutions that were sought in order to catalyze an agricultural revolution under the state farm model; and
2. the predatory use of land by large-scale capitalist farming of rice, maize, cotton and other industrial crops. Such large-scale enterprises are practiced as a form of shifting cultivation because of the ready availability of land. Shifting cultivation involves abandoning one area for another after several years of use. The preferable method of combining stable, sustainable and permanent cultivation (involving inputs of nutrients) is neglected.

The ecological scars arising from the inappropriate use of tractors is most visible around Tamale, along the Tamale-Bolgatanga Road and in the Fumbissi Valley. Mechanized farming as applied in the temperate zone adapts environments to agriculture by the general practice of ‘stable agriculture’. Under this system there is an input of nutrients to balance extraction through cropping and grazing cycles so as to reduce the period of time required to complete the production, extraction and recovery cycles.

Reproductive Squeeze, Poverty and Environmental Degradation. There are yet other ways in which the problems of ecological degradation do not begin and end with the land-using peasants themselves. One particularly destructive complex of causes that ought to be mentioned here is

the rural-urban terms of trade and the privatization of input delivery under the ongoing economic ‘structural adjustment program’ imposed by IMF terms of lending. Although there is a decline in the terms of trade of rural producers relative to manufactured goods from urban centers, this trend has been exacerbated by policies pursued under the IMF-decreed ‘structural adjustment’. For example, although available studies indicate that rural-urban terms of trade have shifted in favor of cocoa producers since 1986 as a result of producer price increases, the same cannot be said for producers of food locally consumed in Northern Ghana. This is because the major staples produced in Northern Ghana that enter interregional trade receive very little price support and no other attention from the government since local food staples are not among IMF prioritized export crops. The evidence in Table 1 on the next page is very instructive as the terms of trade have been abruptly turned against food producers in favor of manufacturers of non-food consumer items in the industrial centers of Southern Ghana, and also in favor of cocoa producers in the south.¹⁴

Table 1
RELATIVE PRICES OF FOOD; GHANA 1977-87 (1997 = 100)

	1977	1980	1981	1982	1983	1984	1985	1986	1987
I	100	96	91	112	138	86	60	57	55
II	100	131	92	125	184	136	64	51	41

I = terms of trade food/non-food consumer items
II = relative prices of food/cocoa production

Source: *Songsore* (1992a) p. 164.

The overall negative effect of agricultural input policies under structural adjustment goes beyond the affordability of inputs, however. For example, privatization of input delivery has led to diminishing coverage and neglect of remote rural communities, thereby further limiting access to improved input methods of farming. This by itself is also bound to affect output negatively.¹⁵ More importantly, peasants are likely to turn from worsening poverty and input-deprivation to soil mining.

Rising Urban Demand for Biomass Fuels. Most urban households in large towns such as Tamale, Bolgatanga, Wa, Navrongo, Bawku and Yendi rely on woodfuel and charcoal as their principal sources of domestic energy and for commercial activities such as pito brewing and manufacture of foodstuffs for sale in the informal economy of the towns. Commercial production of biomass fuels for urban markets is one of the hidden causes of environmental degradation because of the lack of access for urban households to clean energy sources, such as Liquefied Petroleum Gas (LPG) and electricity. Although the overall focus in this discussion has been on rural landscapes, it is important to note that because of the weakness of municipal institutions for the sustainable management of our new towns, urban areas are rapidly becoming sites of accumulated waste and poor sanitation, posing severe health risks.

The complex historical, political, economic and demographic causes of the current environmental crisis range from the micro-level of the household and community, to the meso-level of the district and region, and further to the macro-level of the state. Furthermore it is important to consider the international sphere. Many African governments have lost control of

their economies to international financial institutions as a result of growing debts, often resulting as much from inappropriate domestic policies as from an unjust international economic order. Consequently, these governments are incapable of addressing the developmental aspirations of their people and the requirements of sustainable development.¹⁶

PROCESSES OF AGRO-ECOLOGICAL CHANGE UNDER DEMOGRAPHIC PRESSURE IN NORTHERN GHANA

As these considerations show, the relationship between demographic pressure and ecological degradation is not a straightforward one. In an expanding regional economy that is technologically innovative and gradually industrializing, the structural shifts of labor into non-farm production and the revolution of agricultural technology may indeed lead to increased food output with less labor and reduced area under agricultural production. For a variety of reasons, such a process (which most industrialized societies have gone through) has failed to materialize in Ghana. There are some scholars, including Boserup (1965), who have argued that population growth has provided the impetus for a change from simplistic and more wasteful systems of farming to more intensive, technologically advanced systems. The Machakos experience in Kenya has demonstrated that rapid population growth is compatible with sustainable environmental management under appropriate conditions.¹⁷

The evidence concerning Northern Ghana indicates an entirely different scenario of economic neglect, poverty, and mounting rural densities in isolated pockets of a generally underpopulated area. Since the land area of Northern Ghana cannot be increased, there is some appeal in the hypothesis that due to natural increase and in-migration, mounting rural population densities are causing ecological degradation—especially given the technology predominantly in use.

The average annual population growth rates of 2.3 percent and 2.5 percent for the Upper West and Upper East Regions are well below the national average of 3.0 percent. However, the Northern Region has the fastest population growth rate in Ghana. This high growth rate within the Northern Region is partly due to its relatively low initial population density and the good prospects for agricultural migrants from other regions and from outside Ghana.

Whereas the Upper West and Upper East Regions have been experiencing a decline in their relative shares of the total national population between 1960 and 1984, the Northern Region, in contrast, has increased its share of the national population. Except for the Upper East Region, the average population densities are among the lowest in Ghana (17 persons per sq. km. in the Northern Region and 24 persons per sq. km. in the Upper West). The population density of 87 persons per sq. km. in the Upper East is well above the national average of 57. This is also the region in Northern Ghana where ecological degradation seems to be the most acute. For more detailed population density patterns see Fig. 3 on the previous page.¹⁸

Thus, whereas the population of Northern Ghana remained stationary or even declined in the period immediately preceding the establishment of colonial rule, it has since been witnessing a gradual increase. This early stability in population was largely due to the prevalence of epidemic diseases and the activities of slave raiders such as the Samori, Babatu, Amrahi and Asante warriors.¹⁹ This in turn led to the depopulation of the entire Middle Belt, which extends from the Tumu Gap down to Brong-Ahafo. Two other reasons for the below-average growth rates in the two Upper Regions are the high levels of infant and child mortality and the negative net

migration from the regions. In contrast, although infant and child mortality rates are equally high for the entire Northern Region, the area is a net receiver of migrants.

Perhaps the most important aspect of the demographic process that threatens the ecological integrity of some agro-ecological zones within Northern Ghana is the extreme unevenness in distribution of this largely rural population. The atmosphere of insecurity in the pre-colonial period led to the crowding of the population into watersheds, and the abandonment of fertile river valleys led to subsequent tsetse infestation.²⁰

The factors involved in ecological degradation consist of all the processes that lead to the deterioration of the quality and productivity rating of the land. These often result in:

1. reduction of biodiversity, including stocks of plant and animal species;
2. decrease in the natural vegetation cover, increasing soil exposure and evapotranspiration;
3. increased impoverishment of the soil in terms of organic matter, soil depth, structure — through accelerated erosion, leaching, desiccation due to loss of moisture-holding capacity and the formation of hard pans of lateritic concretions; and finally
4. siltation of ponds and dams by the deposition of eroded material.²¹

Although these effects can be induced by the natural cycles of climatic change within the geological time scale, the greatest culprit and accelerator of deterioration has been the inappropriate land management by humankind itself. Since we are close to the Sudano-Sahelian zone this could all lead to desertification, given a drastic reduction in rainfall, with the consequent human tragedy of famine and dislocation of the entire society.

Rose Innes (1964) has described the anthropogenic processes of ecological degradation in the Northern and Upper Regions of Ghana as consisting of a cycle of events that include the following:

1. clearing of agricultural land using simple tools, fire and more recently, tractors and clearing machinery;
2. grazing of ruminants (cattle, goats and sheep);
3. gathering of fuelwood and settlement construction;
4. bush burning as a generalized practice which has had widespread effects on both the cover and composition of vegetation in the region.²²

The intensified cycle of these events consequent upon both human population growth and an increased ruminant population has meant the shortening of the fallow period, thereby limiting the regenerative capacity of soils, flora, and fauna and an expansion of human activity into frontier zones.

Existing Agro-ecological Regimes in Northern Ghana. The processes sketched in the preceding section have led to the emergence of the following agro-ecological zones at different stages of land degradation (Fig. 4). The following are varied agro-ecological adaptations in response to the growing pressures on resources, given the limits to the technology of production currently in use:

1. Bush farm dominant with supplementary compound farms and unlimited commons;
2. Bush farm dominant with supplementary compound farms and limited fallows;

3. Compound farm dominant with supplementary bush farms and privatization of economic trees in the limited fallows.²³

Bush Farm Dominant with Supplementary Compound Farms and Unlimited Commons. This land management regime occurs in the 'resource frontier' areas. In the Upper West it is found in the eastern parts of Wa and Nadawli Districts and almost the whole of Tumu District including the so-called 'overseas territories'. Here average population densities are below 10 persons per sq. km. It is the predominant land management regime in the Northern Region outside the perimeters of large settlements such as Tamale. In the Upper East, except in the Builsa District, it has become an extinct land use. The system of land colonization often starts with the creation of new settlements consisting of a few households. The initial farms tend to be close to the settlement. But as the settlement attracts new migrants and as the ruminant population increases, the following land uses develop:

- (a) Small compound farms may persist around the settlement.
- (b) This is surrounded by a belt of disused, formerly cultivated areas which are reserved fallows for the browsing of domestic animals such as goats and sheep, and for tethering these animals during the wet season when the compound farms are under crop.
- (c) Beyond (b) is a belt of bush farms interspersed with long fallows.
- (d) At the outer limits of the village may still exist unallocated commons with nearly virgin or primeval conditions. These are called fire climax vegetation formations since their biodiversity is due to fire that occurs every dry season.

The ecological integrity of this type of regime is still largely intact because of the existence of long fallow periods allowing for natural regenerative processes to restore ecological balance. However these are areas exhibiting an urgent need for planned intervention to prevent the practice of soil mining and extensive cultivation in the quest for quick profit. Areas under this regime could be the future granary of the region and the country if managed in a sustainable manner through organic agriculture.²⁴ This zone encompasses 50 percent to 70 percent of the land area of Northern Ghana.

Bush Farm Dominant with Supplementary Compound Farms and Limited Fallows. Once population densities rise to anywhere between 10 to 50 persons per sq. km., the system just described tends to give way to a second type of land use system characterized by bush farm dominant with supplementary compound farms and limited fallows. The two-field system of agricultural land use persists but with the following differences:

- (a) Communal land tenure disappears and is replaced by family ownership, since no unallocated village commons exist except for fetish groves.
- (b) Woody species and fodder resources in fallow areas decline as the fallow period progressively falls to less than five years. This time period does not allow for the full regeneration of woody species.
- (c) As a result of pressure on wood resources for woodfuel and for crafts and building, economic trees such as sheanut for butter and dawadawa fruit trees for soup gradually dominate since they are protected by slash and burn agriculture and by fuelwood foraging. Meanwhile other woody species progressively disappear.

(d) Wildlife resources are degraded and virtually disappear due to the destruction of their habitats and unsustainable hunting.

(e) Soils are degraded, consequent upon the shortened fallow period, thereby threatening village food security.

(f) Hardier crops replace more preferable staple food crops.

The agro-ecological regime just described is the second most dominant in terms of land area, covering between 20 percent to 30 percent of the total land area of Northern Ghana. The Upper West covers the remaining parts of Wa, Nadawli, Jirapa-Lambussie Districts, and small residual parts of Lawra District. In the case of the Upper East Region it occurs in cells along river valleys that had been taken over until recently by onchocerciasis and trypanosomiasis. The regime is dominant in the Builsa District. In the Northern Region it occurs along the more densely settled transportation axis running from Tamale to Bolgatanga. This agro-ecological zone is characterized by rapid natural resource depletion. However, its ecological integrity could easily be restored if appropriate action is taken now.

Once the system of field shifting under the bush fallow practice is further limited there is again the transition to a third type of land use system characterized by more intensive land management and privatization of farming lands and trees.

Compound Farm Dominant with Supplementary Bush Farms and Privatization of Economic Trees in the Limited Fallows. As population densities mount to 50-1,000 persons per sq. km. the dominant land management regime features a predominance of compound farms with residual or supplementary bush farms. Indeed, for some land-hungry families all that may be left is a small patch of compound farm. There is miniaturization of land through subdivision. Also there emerges further privatization of land, economic trees and other tree species as the village commons in fallows completely disappear. Wherever bush farms exist in this zone, they are so impoverished that there is a progressive shift to intensifying production on compound farms. "Unlike for the earlier land management regime, there emerges a conscious application of animal droppings, household wastes and the inclusion of leguminous crops such as groundnuts and bambaranuts in a deliberate crop rotation. Small patches of exhausted soils are left from year to year for tethering domestic animals during the farming season."²⁵

In the Upper West Region this system is common in the present Lawra District and cells are developing around the settlements of Jirapa, Nadawli and Sankana-Takpo. This system is common in the Upper East Region where it is the dominant type of land use in the Navrongo, Bolgatanga and Bawku Districts. Overall it covers 10-20 percent of the total land area of Northern Ghana. This agro-ecological zone is affected by moderate to severe degradation, characterized by the loss of vegetation cover, soil erosion, the development of duricrust or lateritic hard pans and the emergence of Sudano-Sahelian conditions as the first phase in the desertification process. There is a need to restore the ecological integrity of these areas through the encouragement of more intensive agricultural practices, land reclamation through agroforestry development and induced labor movements to the new resource frontiers. Such inducements should include infrastructural supports — roads, market centers, clinics and schools — to be provided in the frontier areas.

Reserved Areas. It is important to acknowledge the existence of forest and game reserves and to a lesser extent the fetish groves. The most prominent game reserve is the Mole Game

Reserve. The fetish groves are patches of protected original vegetation where the earth gods reside, often located around watersheds. This used to be an effective way of protecting the local biodiversity before Christianity and modernization led to the abuse of the fetish groves. These various sanctuaries of biodiversity have been affected only by fire. They promise to be vital in any future program for restoring the ecological integrity of degraded areas.

As we have argued, the cycle of agro-ecological transition begins with the opening up of resource frontiers. This is followed by a second phase of effective production. The third phase is marked by spaces that are left behind after the more dynamic phase of production has resulted in exhaustion. At this point the villages begin to 'export' or expel their excess population into new resource frontiers in a process of predatory migration of peasants arising from agricultural mining of the soil.²⁶

Contrary to popular dogma, the disharmonies (i.e. territorial location of production vis-a-vis ecosystem potential and stability, and the eco-technological gap in the adjustments of production within specific environmental niches) are not wholly the result of internal processes such as demographic expansion. Rather, they are as much the result of external pressures arising from the logic of capital accumulation imposed upon the region from outside.

TOWARDS ENVIRONMENTALLY SUSTAINABLE DEVELOPMENT

It is obvious that the current unfolding ecological crisis in Northern Ghana is essentially induced by political and economic relations. The crisis can likewise be solved through human action at the local, district, regional, national and global levels of intervention, co-operation and support. The current concern over rural environmental degradation started by positing human numbers as the central problem. Since it has been observed that this factor is only part of a complex structure we might expect that the solution could also begin by investing in human development through education, health provision and economic empowerment of individuals. The demographic transition occurred in the West because those governments invested in their citizens. This emphasis in turn influenced individuals' life styles and resulted in a transition to increased life-expectancy and decreased birth rates. An informed, trained and skillfully employed population is also able to overcome the narrow limits of environmental constraints through technological innovation. Consequently, environmental education should be actively promoted in school. There should also be a population redistribution strategy that seeks a more rational balance between people and land. (This entails construction of roads, schools, clinics and related infrastructure in needed locations). These goals should be pursued with the same vigor that has been accorded family planning programs.

There is also the need to promote the adoption of environmentally sound technologies such as minimum tillage, non-till systems and alley-cropping. This should be an area of active research by the new University for Development Studies at Tamale, Ghana. At the community and regional levels, it is vital to facilitate effective planning and supervision in the use of village land. This implies lasting social contracts with regard to land ownership, and for the different uses to which land can be put. At the national and international levels, there is a comparable need for major modification in the terms of economic exchange between town and country throughout the nation, and between poor debt-servicing countries such as Ghana and their international partners.

At the very least, District Assemblies, NGOs and traditional authorities should be committed to the following minimum set of actions:

1. Education should be compulsory for all school-age children and practically facilitated through scholarship schemes run by district assemblies.
2. Land capability surveys should recommend agro-pastoral practices consistent with the effective management of different types of soil.
3. Anti-desertification and deforestation measures should be implemented, such as the creation of woodlots and the introduction of improved stoves and bio-gas systems, along with improvements in kerosene and LPG supply to urban households.
4. More improved pasture lands to prevent overgrazing should be developed.
5. In the absence of effective implementation of by-laws aimed at eliminating bush-burning, programs should recommend early bush-burning instead of late burning to minimize the destructive impact on the vegetation.
6. A wildlife management program is required, together with enforcement of existing forestry reserve policies.²⁷ These could be handled by environmental management committees at district, ward, and community levels.

For these policies to stand any chance of success, close cooperation and active partnership is required between local people, the different layers of the state apparatus and NGOs such as the Catholic Diocese.

NOTES

1. This chapter is a version of a paper in *African Studies Research Review* (1996). It was originally presented at a seminar on *Decentralisation and the Environment*, organized by the Konrad Adenauer Foundation in collaboration with the Upper West Regional Administration and the Catholic Diocese of Wa, from 9th-13th January, 1994 in Wa, Ghana.
2. Brown and Wolf (1987) p. 22.
3. *Human Development Report*, (1992) p. 16.
4. Chadwick (1994) p. 7.
5. Adams (1991).
6. Wilmoth and Ball (1992); Hardin (1977).
7. Songsore (1992a) p. 158.
8. Songsore (1992b) pp. 86-87.
9. ROG/UNICEF (1990) p. 205.
10. World Bank (1992) p. 13.
11. Van Raaij (1974) p. 13.
12. Agricultural or soil 'mining' refers to over-use land, which means yearly planting without any fallow period or other restorative measures to sustain fertility of the soil.
13. Songsore (1990); Okigbo (1989).
14. Songsore (1992a).
15. Jebuni and Seini (1992).
16. See A.O. Abudu, "Counterproductive Socioeconomic Management in Ghana," in this volume.
17. *Mortimore and Tiffen* (1994).
18. Benneh and Agyepong (1990).
19. Songsore and Denkabe (1995).
20. Hilton (1966) pp. 27-29.

21. The Dept. of Geography and Resource Development, University of Ghana (Nov. 1992) p. 103.
22. Ibid, p. 136; also Korem (1985).
23. Songsore (1976); Songsore (1992c).
24. Training and reinforcement for organic agriculture under the scheme 'Integrated Pest Management (IPM)' is detailed by K. Afreh-Nuamah, Chapter Eleven in this volume.
25. Songsore (1992c) p. 8.
26. Thomson (1977) mimeo, p. 37.
27. Songsore and Denkabe (1995) pp. 124-125.

REFERENCES

- Adams, W.M. (1990) *Green Development: Environment and Sustainability in the Third World*, London: Routledge.
- Benneh, G., Agyepong, G.T. and Allotey, J.A. (1990) *Land Degradation in Ghana*, May.
- Boserup, Esther (1965) *The Conditions of Agricultural Growth*, Chicago: Aldne.
- Brown, Lester, R. and Wolf, Edward C. (1987) "Assessing Ecological Decline," in *State of the World — 1986*; Brown, L.R. et al (eds.) New Delhi: Prentice-Hall.
- Chadwick, M.J. (1994) "Visions of a Sustainable World: Ethical Evaluations or Political Programmes?" in *Population — the Complex Reality*, Sir Francis Graham-Smith (ed.) London: The Royal Society.
- Dickson, K.B. and Benneh, George (1988) *A New Geography of Ghana*, UK: Longman Group Ltd.
- Hardin, Garrett (1977) "Living on a Lifeboat" in *Managing the Commons*, Garrett, H. and Baden, J. (eds.) London: Freeman and Co., pp. 261-279.
- Hilton, T.E. (1966) "Depopulation and Population Movement in the Upper Region of Ghana," *Bulletin of the Ghana Geographical Association*, 11.1, January.
- Human Development Report* (1992) New York: UNDP.
- Jebuni, C.D. and Seini, W. (1992) "Agricultural Input Policies Under Structural Adjustment: Their Distributional Implications," *Working Paper*, 31, Cornell University Food and Nutrition Policy Program, October.
- Korem, Albin. (1985) *Bushfires and Agricultural Development in Ghana*, Accra: Ghana Publishing Corporation.
- Mortimore, Michael and Tiffen, Mary (1994) "Population Growth and Sustainable Environment: The Machakos Story," *Environment*, 36.8 October, pp. 10-32.
- Okigbo, B.N. (1989) "Food Self-sufficiency in West Africa: An Overview with Agenda for the Future," in *Towards Food Self-Sufficiency in Africa*, Kodwo Ewusi (ed.) Tema: Tema Press.
- Rose-Innes, R. (1964) "Land and Water Resource Survey, Upper and Northern Regions," Ghana MSS, Legon.
- ROG/UNICEF (1990) *Children and Women of Ghana: A Situation Analysis*, Accra, Ghana.
- Songsore, Jacob and Denkabe, Aloysius. (1995) *Challenging Rural Poverty in Northern Ghana: The Case of the Upper West Region*, CED, University of Trondheim, Report No. 6/95.
- Songsore, Jacob, (1976) "Population Density and Agricultural Change among the Dagaba of Northern Ghana," *Bulletin of the Ghana Geographical Association*, Vol. 18.

----- (1992a) "The ERP/Structural Adjustment Programme: Their Likely Impact on the 'Distant' Rural Poor in Northern Ghana," in *Planning African Growth and Development, Some Current Issues*, Ernest Aryeetey (ed) Accra: ISSER/UNDP.

----- (1992b) "The Co-operative Credit Union Movement in North-Western Ghana: Development Agent or Agent of Incorporation," in *Development from Within; Survival in Rural Africa*, Taylor, D.R.F. and Mackenzie, F. (eds.) London: Routledge.

----- (1992c) "The Decline of the Rural Commons in Sub-Saharan Africa: The Case of the Upper West Region of Ghana," paper presented at *Common Property Workshop*, at the Stockholm Environment Institute, September 22-24.

----- (1990) "The State, Agrarian Crisis and Food Self-sufficiency in Africa", paper presented at *Conference on Emerging African Development Strategies: The Challenge of the 1990s*, Halifax: Dalhousie University, May 9-12.

The Department of Geography and Resource Development, (1992) *A Socio-Economic Survey in the Upper East Region with Reference to Drought and Desertification Control in Ghana*, Final Report submitted to the Environmental Protection Council, November.

Thomson, Brian, (1977) *The Environmental Question: Its Relevance in Development Studies, A Latin American Perspective*, mimeo.

Van Raaij, J.G.T. (1974) *Rural Planning in the Savanna Region*, Universitaire Pers Rotterdam.

Wilmoth, J.R. and Ball, Patrick, (1992) "The Population Debate in American Popular Magazines, 1946-1990," *Population and Development Review*, 18.4, December.

The World Bank. (1993) *Ghana 2000 and Beyond: Setting the Stage for Accelerated Growth and Poverty Reduction*, Washington, D.C.

CHAPTER XI
PARTICIPATORY INTEGRATED PEST MANAGEMENT:
IPM Training Methodology in Ghana

K. AFREH-NUAMAH

INTRODUCTION

Traditionally, ‘subsistence’ farming is practiced in Ghana. Pest and disease control have always involved culturally inherited and physically strategic methods relying on the contribution of indigenous, beneficial natural enemies of pests in the crop environment as nature created it. This kind of farming and pest management is still practiced in some parts of the country where pesticide use is negligible. However, population growth is forcing the country to intensify its agricultural production. As in most debt-servicing countries with agrarian economies, increased crop production has been achieved through increased cropping frequency, increased use of high yielding crop varieties, resulting in increased use of agro-chemicals, including fertilizers and pesticides. This is because high-yielding crops tend to be more susceptible to pests and diseases, particularly if fertilized, necessitating the use of pesticides to ensure that pests and diseases do not eliminate or reduce the potential yields of the crops. In this way pesticides have found their way into tropical farming systems; and in Ghana, chemical pesticides have become the fastest and most reliable means to reduce pest and disease damage.

But sole dependency on imported chemical products is uneconomical for the small-scale farmer. Furthermore, in the past few decades it has become evident that pesticide use is responsible for many health and environmental problems. In response, a new approach to pest management has developed involving more economical and environmentally safer pest control methods, an approach that wholly minimizes the farmer’s dependency on pesticides.

During the 1992 United Nations Conference on Environment and Development (UNCED) in Rio, Integrated Pest Management (IPM) became a focal point. An entire section of the ‘Agenda 21’ plan of action adopted at UNCED was devoted to IPM and called on all signatory governments to promote IPM at the farm level through networks of farmers, extension agents and researchers.

‘Integrated Pest Management’ is a system that relies on the associated crop environment and the population dynamics of the pest species to maintain the pest population levels below those causing economic injury.¹ Currently IPM is seen as an overall farming strategy and as an approach to developing technologies. It is not itself a technology. A technology is something fully developed in one place, disseminated and applied wherever similar crop pest problems are found. Rather, the more encompassing IPM approach is clarified by the following four fundamental principles:

1. Management of a particular pest is integrated into the overall farming system, and is subsumed under appropriate measures to control pests in general.
2. Biological measures (plant breeding, agronomic practices and ecological control by natural enemies) are used to create an environment that discourages the build-up of pests and diseases. Chemical pesticides are used only as a last resort when other measures fail to prevent pests from exceeding predetermined thresholds.

3. The objective is to keep pest and disease levels below economically damaging levels (as determined by regular monitoring and surveillance). The goal is not to eradicate pests and diseases.

4. Control measures minimize hazards to human health and the environment.

The practice of IPM is participatory and emphasizes not only pest control, but also stresses sound agronomic, efficient and more environmentally friendly crop production practices, following the model of the FAO inter-country program for Asia. This approach is revolutionary because its goal is that farmers will become experts in the application of IPM principles to their crops. The training required for achieving this goal takes a different shape from IPM training with other purposes. To achieve the purpose of developing 'farmers as experts', the training process is exhaustive. It meets the needs of the whole person by addressing three aspects of learning: work, interaction and empowerment. This kind of participatory approach has been effective in Asia and Southeast Asia. In Ghana a pilot program at Dawhenya in 1995 was successful as a result of which similar programs on rice have been run at five irrigation project sites: Afife (Volta Region), Tono (Upper East), Bontanga (Upper Region), Dawhenya and Ashaiman (Greater Accra Region). Plans are now well advanced to extend this methodology to the production of other crops.²

Towards this end a workshop for policy makers, extensionists and scientists was held in Accra in April 1996. Subsequently a systematic program was laid down by the Ministry of Food and Agriculture to integrate the IPM training agenda into all of the country's agricultural development programs.

WORK, INTERACTION, EMPOWERMENT

The general goals of the work aspects of IPM training include focussing on the management decisions that have to be made by a farmer applying IPM principles. The interaction domain contains the more social aspects of IPM, teaching farmers how to motivate other farmers to apply IPM and to establish IPM farmers' groups. For reasons detailed below, participatory involvement in IPM strategies is essential to their success. The goals associated with empowerment concern the human developmental process whereby farmers learn to identify and overcome factors that inhibit their control over their own lives. Farmers need to be able to discriminate among technologies presented to them by the agricultural research establishment. Furthermore, farmers need to empower themselves in order to make their own decisions with respect to their farm management activities so that they can employ what they learn from studying IPM principles. These principles constitute improved farm management practices for the attainment of higher yields and greater profit margins. These results in turn can liberate the farmers above the perpetual poverty margins where many of them find themselves, enabling them to take proper care of themselves and their families.

The Work Domain

This training is concerned with behavioral change. The Indonesian National IPM Program has identified specific guidelines (including the 'farmer as experts' mandate referred to above) for program implementation. These guidelines form the foundation of the whole IPM training scheme:

1. Grow a healthy plant.
2. Preserve natural enemies of pests.
3. Make regular field observations.
4. Farmers become experts.

To be able to grow a healthy plant, farmers need to acquire a whole set of skills and farm management strategies associated with growing healthy crops. The work of many national extension agencies since the ‘green revolution’ has not helped farmers to become better producers of crops. It did help them to become better consumers of inputs. Inputs were bundled into application packages based on a pre-determined schedule derived from research results. Farmers were provided no scope for action or decision making; they were trained to follow instructions.

Thus, for farmers to be able to grow a healthy crop, emphasis in IPM is placed on agronomic management issues such as seed selection, soil preparation, planting in nurseries and transplanting to the field, row planting, application and use of fertilizers, water requirements of plants and timing of irrigation, along with other essential agronomic practices. The decisions regarding the use of these inputs are connected to plant physiology and a particular plant’s needs at different stages of its development. The goal is to help farmers optimize their yields by fulfilling the growth potential inherent in the plant.

To preserve natural enemies of pest is, in a sense, a positive way of instructing the farmer to reduce pesticide use. Preserving natural enemies requires being able to recognize the different factors in the crop ecosystem and understanding their complex interactions. All fauna observed in the rice-growing eco-system may be classified either as pests, natural enemies or as neutrals. Pests are fauna detrimental to the rice plant: insects, rodents, birds and weeds. Insect pests are further grouped functionally as defoliators, detillerers, plant/leaf or grain suckers. Natural enemies are the beneficial fauna. These include insects and spiders whose activities are conducive to the plant’s growth; again these are classified functionally as predators or parasites. The neutrals are neither detrimental nor beneficial to the crop plant’s yield. Plant-eating insects, predators, and parasites are all studied in the context of how they relate to each crop and to each stage of a plant’s development. Farmers learn to identify insects and interactions among pests; thus they learn to preserve natural enemies of pests. They learn this on the basis of their own analysis of the factors prevailing in their own fields.

To understand the principle of regular field observation one learns how to make keen observations in the field. The observations are based on the collection and analysis of field data. In the learning situation farmers go through a formal process to acquire these observational and analytical skills. Then later in their own fields, these skills will be applied without the outward formality of the learning process. Having learned systematically about agronomic and ecological issues, the farmer is then able to see for himself or herself what is happening in a field and is able to make decisions based on his understanding of the ecological cause and effect relationships as they are observed in the field. Thus the farmer becomes an expert in the systematic activity of farming. Farming then becomes more of a business enterprise that requires investment and optimal management.

The domain of interaction is the aspect of IPM training concerned with motivating farmers and preparing them to motivate others to act on IPM principles. Pests do not attack the fields of just one farmer; they attack those of several — perhaps all — farmers in a particular area. If farmers work together and employ IPM principles cooperatively, in particular with respect to preserving natural enemies, the likelihood of pest outbreaks will be reduced in their area.

While the objectives of the participatory IPM program are primarily devoted to behavioral change of the individual agent, the interactive domain is crucial to its success. Some pests such as rats, grasshoppers or army-worms cannot be controlled by the efforts of an individual farmer. The individual farmer is at a severe disadvantage if neighboring farmers are not also applying IPM principles such as preserving natural enemies. An understanding of group dynamics, awareness of how people best work together and competence in communicating the content of IPM principles are thus fundamental aspects of the training for farmers gaining IPM expertise.

Empowerment

Crop and field problems such as pest outbreaks and poor irrigation delivery systems may be seen as problems over which an individual farmer has no control. They may be perceived as resulting from someone else's decisions or negligence, resolvable only by governmental action. Empowerment from IPM training helps farmers to recognize the extent to which such problems are in fact within their own control and to plan how they can affect remedies.

THE IPM TRAINING DESIGN

The training is conducted in what is known as an 'IPM Farmers' Field School'. Baseline studies are conducted to determine farmers' constraints and established production practices in a region where IPM training is planned. These studies always precede the opening day of a Field School.

A Farmers' Field School is a group of about 25 or 30 farmers who have agreed in advance to meet once a week for at least half a day (4 to 5 hours) throughout an entire crop season. On a typical day, these farmers break into sub-groups (of five or six field teams), and spend one to two hours in the field making observations, counting population densities of different insect species, assessing crop physiological conditions and recording their observations. Each team then assembles outside the field to discuss, analyze and interpret its data. The interpreted data are then summarized, usually in a sequence of agro-ecosystem diagrams, and presented to the entire field school. These diagrams include a picture of the crop at the stage of growth for that week. Organisms that eat the crop and may produce symptoms that look damaging are drawn on one side of the picture of the crop, whilst others that eat such damaging organisms and thus protect the crop are drawn on the other side.

These Field Schools are experiential and consistently focussed on the field. There are two separate plots in which the teams conduct comparison studies between a crop grown using IPM treatment and a crop grown using non-IPM or 'local' treatment. The study includes taking 'yield cuts' and making an economic analysis. As part of their training, farmers also make insect collections that can be used as reference materials. Another learning vehicle that farmers create is the 'Insect Zoo' discussed below.

A feature of every field school is public promotion of IPM principles. Promotional activity serves to announce to neighbors and local officials that the farmer participants have

accomplished a special training and have become better farmers. This announcement is backed by evidence of the farmers' acquired knowledge. A ballot box test is conducted both as a pre and post training voluntary evaluation, covering all aspects of cultivation: pest and natural enemy identification, fertilizer use, knowledge of plant disease, water management and crop physiology. Generally twenty multiple choice questions are set; farmers spend from two to three minutes answering a question.

Farmers enjoy these tests; the number participating is always high. So far (as expected) scores recorded in the pre-evaluation tests have been lower than scores in the post-evaluation ones, indicating some degree of success in training as farmers gain more knowledge in IPM than they had before they started the training.

Agro-ecosystem Analysis (AESA)

There are three stages in the activity of agro-ecosystem analysis: field observation and data collection, analysis of data and its preparation for display and, finally, summary and group presentation. Agro-ecosystem analysis helps farmers discover fundamental cause and effect relationships in the crop ecosystem. Depending on the crop cycle, this method of analysis allows a longer period of practice in making the observations that are crucial to understanding the agronomic and agro-ecological principles under the farmers' scrutiny. People need practice to master the art of seeing what is happening in the field and to master the reasoning skills required for analysis and decision making.

At the end of the season, yields from the IPM treated plots are compared with yields from the non-IPM-treated plots. A cost/benefit analysis is made. That analysis, together with the developmental knowledge gained from weekly field observations, provides learners with deep insight and an analytical basis for practical applications of IPM principles. The domains of interaction and empowerment are also integrated into this activity since people are gaining communication capacity and learning social psychology as they engage in their investigative research. Each of the farmers has a role in learning about small groups. Each group helps its members to learn about social dynamics and teaches flexibility in assuming leadership roles to respond to change in activity and skills required.

Dialogue

Empowerment is enhanced by the knowledge of causal relationships examined in the agro-ecosystem. In the end, myths about the invincibility of pests are replaced by a clear understanding of what actually happens in the field and how farmers can influence, positively or negatively, what happens in the field. Other activities included in the Field School schedule are: 'What Is This?'

This IPM training technique encourages articulate, exploratory communication in the form of a dialogue. IPM trainers, referred to as facilitators or IPM Field Leaders, are urged to avoid answering a question such as 'What is this insect?' with a direct answer such as 'This is a lady beetle.' Instead they establish a dialogue concerning the insect in question by responding with a series of further questions that focus on the insect and its functions in the ecosystem. The questions asked by the field leader should be open-ended yet direct the way to an answer, should help participants to discover on their own answers to their questions and, ideally, should compel an ongoing attitude of critical investigation.

The purpose of initiating such a dialogue is not only to transmit information about a fixed subject. It establishes that the learner is someone knowledgeable about the topic already. In the above example, a question may be asked to determine where the insect was found, what it was doing, at what time, what was the stage of growth of the crop when the insect was sighted, whether other insects were present and so on. By establishing a dialogue, other questions that might eventually be asked are answered by the trainee, who at this point has become the teacher. The dialogue follows the steps involved in any critical investigation. Through repetition of this process participants learn how to probe their environment; the participants learn how to learn.

Besides relying on learning theory and behavior modification, the dialogue makes use of basic principles associated with interaction and empowerment. Empowerment results from acquiring new and more discerning perceptions through critical thinking. The dialogue provides the building blocks of critical thinking. The learner in IPM training selects a theme for the dialogue ‘What is this?’ and with the aid of the dialogue investigates this theme. This activity is presented early in an IPM Field School’s cycle and it is used throughout the cycle. A particular dialogue may not reach a resolution where participants accept the conclusion they have derived. In such a case a leader might present an additional ‘special topic’ to help the farmers pursue their lingering question to a satisfactory answer.

The Special Topics

This lesson design presents a particular topic connected with various aspects of IPM such as agronomy, biology, ecology and economics. At the core of special topic activity is an experiment or problem, the solution of which either demonstrates an IPM principle or explains how the principle functions in a particular context. The special topic activity consists of four stages: explanation and assignment of a task, a core activity, presentation of results and discussion and, finally, processing by the trainer. The special topic usually takes an hour or two to conduct, but some may take weeks, e.g. making and observing an insect zoo.

The special topics engage learners in the work of discovering principles fundamental to IPM. Work is done in small groups of five learners each. Most special topics ask learners to write or draw on newsprint the results of their experiment or problem-solving activity. These results are then presented to the group (just as for the Agro-economic system analysis).

Probing questions are raised after learners have conducted their experiment to help them process what has happened. Usually each presenter representing a small group is asked some questions, with other members assisting in the reply whenever necessary. These processing questions stress the major learning points of the activity. The question and answer process helps learners to apply what they have gained from their experiment. The process of presenting and questioning also sharpens the farmers’ communication skills and builds their confidence in assuming the voice of critical expertise.

The special topic activity continues the integration of different domains in IPM training. Working together in groups compels people to analyze how to work together. While this aspect is not stressed, people want their group to do well. Thus participants learn how to take on the roles necessary to solve problems. Their discussions lead to clearer understanding of IPM concepts and logic. Special topics demystify issues and clarify causal relationships, so that farmers are empowered to tackle their field problems.

There is at least one special topic in every meeting of a Field School. Besides being ordered according to issues and concerns as they develop in the learning process, the sequencing of

special topics also follows what is happening through the growth processes of plants in the field. Here are some examples of special topics covered for rice production:

1. Land preparation
2. Seed germination test
3. Ballot box test
4. Crop compensation-defoliation and detillering
5. Panicle initiation and fertilizer management
6. Water management
7. Pests, natural enemies and insect zoos
8. The effect of pesticides on natural enemies
9. The effect of pesticides on human health
10. Weeds and their management
11. Birds and rodent management
12. Human agro-ecosystems
13. Group dynamics
14. Village immersion
15. Farm immersion
16. Folk media

Land Preparation. It is generally observed from data gathered during the baseline survey that most farmers on irrigation projects do rather poor land preparation. This leads to poor land levels and inadequate water management. If land is poorly prepared, field water distribution becomes poor and leads to serious weed problems. Ideally, land preparation/tilling is done twice with the first tilling at least two weeks prior to planting. Water is ponded on the fields to enhance weed and debris decomposition. Final tilling is accompanied by rotovation and leveling with drag boards.

Farmers generally appreciate the key importance of good land levels for proper weed and water management, and agree to implement the techniques discussed. However, they lament about the inadequacy and badly timed availability of powertillers and tractors for land preparation.

Seed Germination Test. Most farmers do not check the viability of their seeds before planting on their fields. This normally leads to poor field seed germination and the tendency to use very high seed rates. Quite often, non-viable seeds that could otherwise serve as food are wasted and thus their nutritional value is lost to farmers.

So farmers are trained to perform simple germination tests. These involve pre-soaking seeds in water for 24 hours and incubating in jute sacks for another 48 hours. A germination test helps to assess the viability of seeds. It allows farmers to sow at optimum seed rates, eliminating seed waste. It facilitates good field germination of seeds and rapid establishment on the field.

Ballot Box Test. As noted already, this pre- and post-evaluatory test provides some objective indication of the positive results of the Field School for the general public. But facilitators also need to know how much farmers are learning about IPM from their school experience—specifically about growing a healthy crop, as well as identifying pests and natural enemies.

Crop Compensation-defoliation/detillering. Most farmers rush to apply insecticides at the first sign of insect damage to leaves and tillers of the rice plant. Natural compensation of the rice plant in response to pest damage is usually not well understood by farmers.

‘Compensation’ refers to the versatility of the rice plant in replacing leaf and tiller due to pest attack. Field trials are conducted to demonstrate these effects. Pest attack is simulated by defoliating and detillering rice plants (up to 10-50 percent) and their compensation ability is monitored till harvest when yields are compared with untreated plots. When the yield levels are similar this indicates the crop has aptly compensated for imposed damages. The farmers come to realize the compensatory ability of the rice crop through the ‘participatory action research’ they conduct themselves. They discover there is no need to spray when such minor damages occur, especially at the early vegetative crop stage. They also collect insect pests and identify defoliators and detillerers, in order to anticipate when pest attacks are likely to be excessive and so will require a planned-intervention response.

Panicle Initiation (P1) and Fertilizer Management. Without an informed farmer’s supervision, application of technical advances in new fertilizer can be costly and destructive. A list of instructions in a foreign language on new fertilizer packaging does not serve to transfer the needed information to the farmer. Many farmers are not aware of the Panicle Initiation stage of the rice crop and its relation to specific nutrient requirements and water management. Dissecting the rice stem to observe the young panicle primordia is very important for the farmer to recognize P1 in the field.

Group discussion focuses on P1 as the most critical stage of a rice crop in relation to nutrient and water uptake. At P1 the crop’s physiology changes from the vegetative to the reproductive phase. At P1 there is active reproductive cell division and, as such, it is very critical for resource utilization. At P1 much of the photosynthate produced is diverted from tiller and root development to the production of reproductive organs. The number of grains per panicle is determined at P1. Therefore more nitrogen is required by the plant at this stage. The ability to identify the P1 stage helps farmers to make crucial decisions about fertilizer use and water management.

For a typical 120-day maturing variety, P1 occurs around 55 days after sowing (DAS); i.e. 35 days to ‘heading’, or 65 days to maturity. Farmers themselves dissect rice stems to observe the young panicle primordia (agronomic P1 = 1 mm). Thus the farmer witnesses the need to apply nitrogen fertilizer at P1 when insufficient. The need for irrigation is clarified at this stage as well.

Water Management. When, how much and how often to apply water are important considerations for the farmer to make. Discussions have yielded the following: Optimum water levels (5-7 cm) facilitate effective nutrient uptake. About 16-20 cm water is too much and can result in reduced tillering and weakened plants. Good land preparation with proper leveling facilitates uniform water depth and effective weed control. The maximum amount of water usage by the rice plant occurs at its reproductive stage. Water should be drained off at the ‘hard dough’ stage to facilitate harvesting and to prevent lodging.

Pests, Natural Enemies and Insect Zoos. An insect zoo is a small cage surrounding an individual rice plant into which insects and spiders are introduced to study their feeding habits and life cycles. These are constructed by the farmers with polythene sheets on potted plants so that they can observe the defoliation process first hand. Farmers make weekly collections of

insects and spiders for identification based on their functional roles and the growth stages at which they appear. In particular, the farmer witnesses:

- i) the spider preying on adult Diopsis;
- ii) damselflies preying on white leaf hoppers; and
- iii) the life cycle of the Cortesia (wasp) parasite.

The Effect of Pesticides on Natural Enemies of Crop Pests. This topic addresses the vulnerability of beneficial natural enemies to pesticides. Demonstrations or trials conducted by farmers and facilitators using various types of pesticides (e.g. insecticide *nematicide-carbofuran*, and herbicide *thiobencarb-propenyl* as active ingredients) consistently exhibit quicker ‘knockdown’ times and higher mortality rates of beneficial natural enemies when compared with their effect on target pests against which the applications of such poisons are intended.

By the 1960s serious problems began to emerge which brought into question the received unilateral chemical approach. Many side effects resulting from overuse of chemicals became evident (Graham-Bryce, 1977; Coffee, 1979; Hartley and Graham-Bryce, 1980; Afreh-Nuamah, 1996). The impact of pesticides on the natural enemies of the target pests also undermined the pesticides’ long-term effectiveness.

With the removal of predators and parasites by pesticides, many pest species hitherto suppressed by their natural enemies returned in much greater numbers — this phenomenon is known as pest resurgence. Further: indigenous species, which had previously been economically insignificant, emerged as secondary pests (Stem et al, 1959; De Bach, 1974; Youdeowei and Service, 1983; Kenmore, 1991).

The implication is clearly that beneficial fauna — the natural enemies of pests — are the most vulnerable of all to broad spectrum pesticides. Therefore with the IPM strategy any pesticide application is regarded as a last resort to control pests, and the types chosen must be selected with discretion in favor of low mammalian toxicity.

The Effect of Pesticides on Human Health. The potential hazards of pesticides are ubiquitous. They confront workers engaged in their manufacture, transport and disposal, farmers and operators who apply them in the field, the consumer and wild life in the environment. The hazards to the manufacturers are manageable by following relatively well tested procedures and practices. Of greater concern is the hazard to the field operator using a pesticide because of the high degree of variability in field conditions and the frequent lack of information concerning safety precautions — recall that most chemical pesticide imports are packaged in languages unknown to the user in Ghana.

In 1972, the World Health Organization (WHO) received published statistics on pesticide poisoning from 19 countries and estimated that there was as many as 500,000 cases of pesticide poisonings per year. OXFAM, a non-governmental organization (NGO) based in Britain, updated this figure to 750,000 in 1981. Around the late 1980s the Economic and Social Commission of Asia and the Pacific (ESCAP) suggested that pesticide poisoning accidents might mount to two million a year, of which about 40,000 were expected to be fatal.

Pesticide poisoning is much more common in the ‘Third World’ — occurring with about 13 times greater frequency — than in the USA, according to a report by the USAID. It has been statistically established that at least one individual in the ‘Third World’ is poisoned by pesticides every minute. The major reasons for these accidents are attributable to the more brutal working

environments and the hazards of distributing poisonous chemicals in societies where most people can neither read nor write. In Ghana, most chemical dealers are nonliterate and therefore they lack access to published information about the chemicals they are selling; thus they are not able to offer advice that is crucial for farmers regarding pesticide use.

Reports reaching the Ministry of Food and Agriculture (MOFA) (through personal communication with the Director of the Plant Protection and Regulatory Services Department) indicate that in some parts of the country — especially the intensive vegetable growing areas — chemical abuse is rampant. For example, some farmers use persistent chemicals such as gammalin and unden (meant for cocoa), on their food crops. In addition, arbitrary solutions of different chemical formulations are mixed for use against vegetable pests and diseases. Apart from reported deaths from such pesticide abuse in several of such areas, some male farmers have lost their virility through pesticide poisoning. This special topic is treated to emphasize the magnitude of the disastrous consequences of pesticide misuse by farmers. Usually this involves an open-spraying demonstration by a farmer while other farmer participants critically observe the spraying action and score the performance according to criteria that concern the propriety of the sprayer's apparel, eating and smoking habits, talking while spraying, the pace of spraying, the disposal of safe containers and their contents. After the exercise, farmers usually have scored higher in "don'ts" than "do's" in their spraying technique. Typically they are dismayed about the extent to which they have unwittingly put their lives at risk using these 'killer' pesticides. Upon this revelation some farmers have testified concerning their chronic ailments and loss of virility.

Weeds and Their Management. Results of the baseline survey conducted before the start of the Farmers' Field Schools indicate that weeds are the number one pest problem for all irrigation projects. The most common types of weed found are the *Echinochloea spp.* and *Ishaemum spp.* (grasses), the *Cyperus spp.* (sedges), and the *Euphorbia* and *Marselia spp.* (broad leaves). The *Echinochloea spp.* are the most difficult to control. Farmers collect different types of weeds for identification. Discussions center on experiences with different types of weeds and control methods: good land preparation, proper water management, handweeding and chemical intervention only when necessary.

Proper management of water to specific depths (7-15 cm) can control most of the young troublesome weeds. Handweeding is performed by handpicking and removing weeds and stump debris after land preparation clears most of the troublesome stolonaceous weeds. Two other handweedings are advised: the first is very important, around 30-35 days after sowing (DAS); and another at 65-70 DAS is a minor aid to cleaner fields.

Chemical weed control entails the use of herbicides, pre- or post-emergence of weeds. Due to poor timing and management problems, post-emergent types of control are more commonly used on the irrigation projects. These are usually compositions of two active ingredients (ai)-propanil (constant) plus thiobencarb (in *Saturnil*), or plus bentazone (in *Basagram*), or plus Oxadiazone (in *Ronstar*). These must be applied post-emergence from 14-21 days after sowing and must be followed two to three weeks later by handweeding. The weed problem is greater in direct seeding than in transplanting. However, no matter the system or method, all weeds should be controlled before 35-42 days after sowing.

Birds and Rodent Management. These can become very serious pests if not controlled with extreme vigilance. Various control methods are discussed, and many farmers share their experiences with the time and extent of damages caused by these pests.

With birds, the time of damage starts at heading (formation of the grains) or the early milky stage. Damage involves the sucking of juice from grains or the removal of whole grains from the plant's spike. Damage to a rice crop on irrigation projects occurs around the onset of the rainy season; for this is the period for birds of food scarcity in the surrounding vegetation. The major culprits are the weaver birds and the *quelea quelea*. It was noted that the colorful Red and Yellow Bishops do not cause any damage to the grains themselves. Rather they invite the grain-eating birds to the field for a meal. Various control methods like use of scarecrows and timing-guns have not been found to be very effective, as birds sooner or later become scare-shy. The traditional vigilant scaring-by-shouting and shooting catapults loaded with clay-balls, usually involving child labor, have been more successful.

The damage caused by rodents starts at early booting and continues through the mature grain stage. The rodents cut and eat the fresh stems and parts of the panicle. Again the major period of damage is at the onset of the rainy season. The main culprits are the field rats (*rattus rattus*) and the small house mice (*rattus norvegicus*). The mice are very prolific, producing high litter counts, stay in holes and are mainly nocturnal. Their nocturnal habits render control (especially by physical means) very difficult.

The main control methods are cultural (weeding for clean bunds and fields), physical (digging out or flushing out the mice with water from their holes), and chemical (use of rodenticides). The main problem with chemicals is that the rodents easily become 'bait-shy', especially to the acute poisons. The anticoagulants (especially warfarin base-types) that kill slowly by internal bleeding have been the most effective.

Human Agro-ecosystem

This special topic allows farmers to enact on stage the interplay of factors in the crop's agro-ecosystem. After many analyses of data, farmers come together to enact the roles and functions of all the key players observed. Each farmer acts the part of one aspect or organism in the agro-ecosystem (e.g. the sun, the rice plant, the various pests and their 'natural enemies').

When linkages between these factors in the agro-system's trophic levels and food webs are theatrically demonstrated, the farmers can easily recall the functions of the various organisms. This improves their identification skills later when the farmers make IPM decisions on their own.

Group Dynamics. These activities are designed to enhance the performance of small farmer units or groups. They are important tools for facilitating adult learning. They involve icebreakers and physical exercises, riddles, fun-stories or jokes, exercises for team solidarity building, for communication skills and for leadership role training. There are effectively three stages in each activity: introduction, action and review. A typical group dynamics activity asks small groups to draw a picture of a given topic. First the group is asked to draw without being able to communicate. Later the group is invited to communicate. The drawings are usually noticeably different. The leader helps the participants to reflect on why there were differences, what it feels like under each of the two conditions, what can be done to enhance communications in teams and so on. Group-dynamics activity keeps farmers alert and attentive during the training, fosters cooperation and togetherness within the groups, promotes the spirit of motivating competition and purpose among the groups and sharpens farmers' communication and organizing skills.

Village Immersion. This important exercise of the Farmers' Field School promotes good interaction and trust between facilitators and farmers. It involves facilitators visiting farmers in their homes on resting days, especially taboo days when farm work is prohibited. Maps are drawn to identify the house of each farmer in the village or community. Facilitators use the map drawing as an opportunity to learn about the farmer and his or her family, interests, dislikes and habits. The traditional culture of the area is also discussed in a relaxed manner. These visits enable facilitators to know a little more about the farmers themselves. It is usually a give and take affair, so it is also important for facilitators to disclose some personal information to the farmer and his family.

Farm Immersion. This is another important exercise when facilitators visit the farmers in their respective fields to build the necessary trust and rapport between themselves and the farmer. On these visits, facilitators learn the field conditions and problems of farmers through discussion and shared experiences. The participant farmers feel more secure and accepted as a result. After their initial visit, facilitators draw a field/farm map indicating the plots of each farmer for future reference and field visits.

Folk Media. These are theatricals organized by farmers to spread the IPM message to non-participating farmers and visitors. The presentations usually highlight the benefits and praise the importance of IPM, in the form of poems and recitals, songs, hymns, drama and role playing, dancing, parades, all accompanied by traditional drumming and music. The occasion is usually a special open day for the graduation ceremonies at the conclusion of the Farmers' Field School when invited guests, dignitaries and policy makers are in attendance.

CONCLUSION

IPM Farmers' Field Schools often take root in pre-existing farmers' organizations and help them to work better. The Schools catalyze these established groups and focus their attention upon concrete goals. The IPM training process shows how to build stronger groups, given the individual members' talents and accomplishments.

Farmers' Organizations and Extension Systems. The discovery-based learning process reduces farmers' dependency on outside technology and increases their self-reliance. It strengthens the indigenous investigation that farmers have carried out over the years in any case, and makes the farmers collectively stronger and more active collaborators who can shape the country's research and extension system to cohere with their local needs and priorities. IPM depends upon a broad-based commitment to redress the built-in imbalances of development and to create conditions whereby local farmers can take active roles in the management of their farms.

Stronger, mutually beneficial interactions are established between farmers and extension officers, in particular the technical officers within the Ministry of Food and Agriculture. Extension officers are notorious for chasing farmers with packages of inputs and collecting loans that were granted only to enable farmers to purchase those packages. Instead IPM teaches extension officers how to become partners with farmers in a joint discovery process. They learn to assume the role of facilitators participating in IPM rather than the role of instructors, and together with the farmers in the field, they learn to observe, discuss, analyze and to keep focus on constructive solutions.

IPM's Impact on Research Relationships. IPM so practiced opens the possibility for a fundamentally new relationship between agricultural researchers and prospective beneficiaries. This has been called training-driven or demand-driven research, grown directly out of the Farmers' Field Schools. Extension officers learn directly from farmers the main constraints to crop production, and these facts are passed on to researchers for redress. Farmers who have been through IPM Field Schools are better able to articulate their production constraints and needs. This relocates the farmers into a position where they can assume a voice of authority and expertise to guide Ghana's future national agricultural policies in a beneficial direction.

NOTES

1. Smith and Reynold (1966).

2. As of 1997, the United Nations Development Project (UNDP) under its National Poverty Reduction Program is sponsoring a three year training project to introduce IPM to 1700 rice and vegetable farmers in five districts throughout Ghana: in the Afram Plains (Eastern Region), Bongo (Upper East), Accra Metropolitan Assembly and Dangbe West (Greater Accra Region), and Jubeso-Bia (Western Region). The author is currently UNDP's Director for IPM in Ghana.

REFERENCES

Afreh-Nuamah, K. (1996) *People's Participatory (Bottom Up) Approach to Integrated Pest Management in Africa: Prospects and Constraints*, Accra: Ghana Universities Press.

Coffee, R.A. (1979) "Electrodynamic Energy Nozzle; a New Approach to Pesticide Application," *Proceedings BCPC Conference on Pests and Diseases*, 3, pp. 77-89.

De Bach. (1974) *Biological Control by Natural Enemies*, Cambridge University Press.

Graham-Bryce, I.J. (1977) "Crop Protection. A consideration of the effectiveness and disadvantages of current methods and the scope for improvement," London: *Philosophical Transactions of the Royal Society*, B281, pp. 163-179.

Hartley, G.S. and Graham-Bryce, I.J. (1980) *Physical Principles of Pesticides Behaviour*, vol. 2 London: Academic Press.

Kenmore, P.E. (1991) "Getting Policies Right, Keeping Policies Right: Indonesia's Integrated Pest Management Policy, Production and Environment," paper presented at the *ARDE Environment and Agriculture Officers Conference*, Colombo, Sri Lanka, September 11.

Smith, R.F. and Reynold, H.J. (1966) "Principles, Definitions and Scope of Integrated Pest Control," *Proceedings of FAO Symposium on Integrated Pest Control*, 1, pp. 1-17.

Stem, V.M., Smith, R.F., Bosch Van Den, and Hagen, K. (1959) "The 'Integrated control concept'," *Hilgaria*, 29 pp. 131-159.

Yondeowei, A. and Service, M.K. (1983) *Pest and Vector Management in the Tropics*, London: Longman.

CHAPTER XII
GOLD: THE LINK BETWEEN ANCIENT AND MODERN
GHANA
W.A. ASOMANING

Anyone who has spent a few months in Ghana cannot fail to notice the important role that gold plays in the economic and cultural life of its people. Indeed, it would not be an exaggeration to say that Ghana and gold are synonymous literally and metaphorically. The colonial name of Ghana, 'Gold Coast' was based on the fact that when visitors from outside Africa first arrived on the shores of the Gulf of Guinea they could literally see and pick gold from the sand. Today it is not impossible to do so, although it may require more effort. I am inclined to think that it is the gold more than anything else that initially attracted the Portuguese, the Danes and the British to invest so much in castles and forts along the coast of Ghana.

Modern Ghana derives its name from the ancient African empire that thrived from about 4th or 5th century AD to about the middle of the 13th century AD. Geographically it occupied the land between the Senegal and Niger Rivers. No doubt this position, strategic as it was, partly accounted for its rise to an economically powerful empire.

History has it that the ancient empire was originally called *Aoukar*, whose King bore the titles 'Ghana' meaning 'war chief', and *Kaya Maghan*, King of Gold. From the late 8th century AD the empire came to be known as Ghana by its neighbors and trading partners. Ancient Ghana was therefore literally born out of the trade between North Africa and West Africa. For centuries before the Ghana Empire, traders from North Africa had traveled first on foot through the green Sahara (2000 BC), then on horses (500 BC) and finally in camel caravans along certain routes through the desert to bring salt and leather goods to the south in exchange for gold, ivory, kola nuts and iron. The North Africans then sold the gold and ivory to Europeans and Arabs in the Middle East. Later, metalware, silk, beads and horses were added to the items of trade.

By its sheer geographical location, Ancient Ghana was the meeting point for the traders from the North and the traders from the South. The King levied taxes on both sellers and buyers of gold. The Empire on the other hand offered the traders the needed protection because of the stable political climate. At the height of its prosperity the capital of the Ghana Empire, Kumbi Saleh, was supposed to have a population of 15,000. Old traditions also speak of a movement of some of the people of ancient Ghana southward to occupy the present middle belt of modern Ghana. If indeed this movement occurred, it means that the ancestors of the people who occupy the present Ghana had seen gold as a source of wealth and also as currency. Among the Akans and non-Akans who occupy the middle and the coastal region of modern Ghana, the name for gold is *Sika Kokoo* that literally means 'red money' or currency. In pre-colonial Ghana, the currency for trading activities was either gold or cowry, the latter being shells of a marine snail. Cowry is white hence the need to distinguish gold from it by describing gold as 'red'. Gold and cowry were demonetized in 1889 after colonial Gold Coast had been established by the British in 1874.

WHAT IS GOLD?

Gold is a metallic element with the chemical symbol Au, derived from the Latin word *aurum* meaning 'shining dawn'. It has atomic number of 79 and relative atomic mass or 197. This literally means that an atom of gold is 197 times as heavy as that of hydrogen. Gold belongs to the Group IB of the Periodic Table whose members (copper, silver, and gold) are traditionally referred to as the coinage metals. The metals have the valence shell configuration of $(n-1)d^{10}ns^1$ and therefore are strictly not transition elements, but their cations, some with partially filled d-orbitals are expected to behave as cations of transition elements. Ionization enthalpy of gold, which is a measure of the ability of the atoms of the elements to lose electrons, is twice as high as those for most metals; hence gold has a very low tendency to pass from the elemental state into its salts. There lies the basis of its nobility in the chemical sense. Gold is therefore found in nature as free metal, mining of which is relatively easier than some of the other precious metals.

Gold is twice as dense as copper or silver. The actual values are 19.3, 8.92, and 10.5 kg m⁻³ respectively. Two other properties of the metal combine to make it precious: polished, solid gold is yellow and has a beautiful luster. It is considered to be the most beautiful of all the elements by the connoisseurs of the jewelry profession. It is so ductile and malleable that 28g or 1 ounce can occupy a minimum volume of 1.45 cm³ and be beaten into a sheet 2.8 sq. meters or 30 sq. feet in area. Hence gold can be beaten and drawn into all kinds of shapes.

Another factor that makes the metal precious is that it is relatively scarce in the earth's crust. The percentage abundances of some useful elements are given in the following table. It can be seen that gold is ten million times as rare as iron, for example.

Metal percent/Abundance Metal percent/Abundance

Silicon 26.0	Copper 7x10 ⁻³
Aluminum 7.5	Tin 4x10 ⁻³
Iron 4.7	Silver 2x10 ⁻³
Magnesium 1.93	Lead 2x10 ⁻⁴
Manganese 8x10 ⁻²	Tungsten 1x10 ⁻⁴
Gold 5x10⁻⁷	

Geology of Gold in Ghana

According to Barning:³

[M]ost of Ghana lies within the Precambrian Guinea Shield of West Africa, the main rock units being the metamorphosed and folded Birimian, Tarkwaian and Dahomean systems, the Togo series and the Buem Formation. The Precambrian rock are overlain by later Proterozoic to Paleozoic epicontinental sandstones, shales and mudstones termed the Voltaian System. The Birimian, about 2000 million years old, is the host rocks for deposits of gold and other precious minerals such as diamonds, bauxite, manganese and iron.

A mineral map of Ghana shows that there is gold everywhere in Ghana except perhaps the Volta Basin.

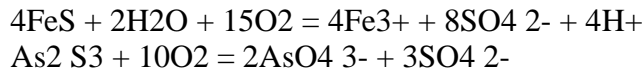
Gold Deposits. Gold deposits in Ghana can be broadly classified into three main types:⁴

(i) reef or vein type,

- (ii) surface ore,
- (iii) alluvial deposits.

Reef or Vein Type. This is the gold ore located several thousand feet underground and associated with the primitive Birimian rocks. The gold occurs in the cracks or fissures in the rock, hence its name. During the formation of the reef, gold crystallized out with arsenopyrites, iron-arsenic sulfides $AsFeSO_2$. Examples of gold mines in Ghana which exploit the reef or vein type are Ashanti Goldfields Company Ltd. (AGC) at Obuasi, Prestea Gold Mines at Prestea, Billiton Bogosu Gold Ltd. (Canadian-Ghanaian company) at Bogosu. At AGC one report indicates that veins up to 500m long and 25m thick can be found. The deepest mine is about 15.85 km or 52,000 feet (9.85 miles).

Surface Ores. These may be hard rocks at or near the surface containing gold deposits. The hard rocks may have been formed as a result of volcanic activities. The sulfide-laden rocks, when exposed to the atmosphere, become what are termed oxidized ores. The sulfur and the arsenic are converted by the weathering process into sulfates and arsenates respectively. The chemical equations for the weathering processes may be as follows:



Examples of goldmines that exploit this type of ore are Tarkwa Gold Field, Teberebie Goldfields and Ghana Australian Gold Fields near Tarkwa.

Alluvial Deposits. These deposits are found in the streams or rivers that run over the areas with Birimian rocks. They are derived from the primary veins. The gold is finely divided and is found in riverbeds, riverbanks, dry valleys, gravel beds, beach gravels and sand. The ore at Konongo, mined by Konongo Southern Cross Mining Company (partly owned by an Australian company) is lateritic. AGC also mines this type of ore. Concessions given to the small-scale miners in the Central, Eastern Ashanti, Upper East and Upper West Regions involve this type of deposit.

Minerals Commission

One of the actions taken by the former Provisional National Defense Council (PNDC) Government to revive the mining industry was to set up a Minerals Commission (MC) in 1989 whose main responsibility was to promote and oversee the orderly development of the industry. In 1989, on the advice of the MC, the government of Ghana decided to regularize small-scale gold mining by individuals or small groups of individuals. Up until 1989 gold mining by individuals had been illegal. The main reason for allowing individuals and small groups to mine was that the exploitation of alluvial gold in particular is not attractive to the big companies which normally use sophisticated machinery. A law compels these small scale miners to sell their gold to the Precious Minerals Marketing Corporation.

EXTRACTION OF GOLD

No one disputes the fact that extraction of gold began long before the Europeans arrived in Ghana in 1471. The metal was extracted exclusively from the alluvial material. Large-scale

mining that involves the use of heavy machinery started in about 1880 at Tarkwa and 1898 at Obuasi.⁵ It is estimated that between 1471 and 1888, 14 million ounces of gold (35,000 ounces per annum) were produced.

The processing of gold ores now involves three basic steps:⁶

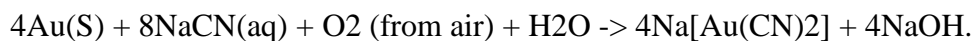
- Crushing and grinding of the ore (communion or scrubbing);
- Concentration which involves the separation of the ore into characteristic products;
- Disposal.

Alluvial Gold. The crushing and grinding of the ore is done by nature. The powdered material is transported by river or by rainwater. In the course of time some rivers dry up. In dry areas the vegetation is removed. A mixture of sand and pebbles contained in a basket is washed (sluiced) in the river or in artificial ponds to concentrate the ore. This concentrated ore is poured over a stretched, sloping blanket or some similar material. The gold gets stuck to the material while the sand and other impurities run off. The gold is scraped into a container; a few drops of mercury are added to extract the gold by amalgam formation. The excess mercury is drained off and the amalgam is heated to evaporate the mercury leaving behind the gold. Gold recovery is about 20-30 percent by the small scale miners and about 70-80 percent at the Dunkwa Goldfields on River Offin.

Surface Ore. The vegetation and topsoil are removed if necessary to expose the rock or laterite. The rock is chipped with a hammer or chisel; the broken pieces are ground with a mechanical crusher (or manually with metal mortar and pestle) into a fine powder. Laterite is also ground to give a powder. The powder is washed to concentrate the gold, which is isolated by amalgamation or by heap-leaching. Heap-leaching is used by the big companies, and it is normally suitable for low grade ores.

Heap Leaching. Heap leaching is practiced at Konongo, Teberebie, AGC and Ghana Australian Gold Field, Tarkwa. The crushed ore is mixed with cement and made into pellets that are heaped on a leach pad covered with high-density polythene sheets 0.2 in. (or 0.5 mm) thickness. The heap is continuously sprayed with cyanide solution at pH 11 for about 30 days. The gold dissolves as the cyanide solution percolates gradually through the heap. The gold solution drains eventually into a collection pond and metallic gold is recovered by one of several methods available. Gold recovery is above 80 percent.

Underground Mines. Where gold occurs in the so-called veins or reefs, the ore invariably contains arsenopyrites. The arsenopyrites consume cyanide and therefore have to be expelled. This is done by crushing and roasting the ore at a temperature that converts the sulfur to gaseous SO₂ and the arsenic to As₂O₃. The roasted ore is then ground into a powder and treated with cyanide solution. In the presence of air, the gold is converted into a soluble salt, containing a complex anion:



The solution is filtered to remove any solid impurities. The metallic gold may be recovered from the cyanide solution by one of the following two methods:⁷

(a) *Addition of Zinc Powder:* Zinc in the form of powder added to the solution dissolves and replaces gold in the complex union. Gold metal precipitates out of the solution. The crude gold is purified by electrolysis, using impure gold as the anode and a strip of pure gold coated with a thin layer of graphite as the cathode.

(b) *Carbon in Leach and Carbon in Pulp Methods:* A solution of the gold cyanide complex is obtained as described before. The complex union is absorbed onto an activated carbon. After filtration the complex union is stripped off the carbon by chemical means and the resultant solution electrolyzed using steel wool as the anodes.

ENVIRONMENTAL PROBLEMS

Large-scale surface mining in particular involves the clearing of large tracts of forest and agricultural land, resulting in serious land and forest degradation. For the first time in the history of this country, some concerned chiefs in the Western Region went on a demonstration calling for a ban against gold mining in their part of the Region. As recently as August 18, 1997 at a meeting with the Ghana Mine Workers Union, the Minister of Mines and Energy used the platform to appeal to Ghanaians to be more accommodating and to stop the call for the ban of surface mining.⁸ He admitted that there were some negative effects of mining operations, but he stressed that his Ministry would ensure that the environmental degradation characterizing such mining activities would be reduced to a minimum. The report did not indicate how this was going to be done. He also said that he would ensure that adequate compensation would be paid to the affected communities. Our history is replete with reports of chiefs or Local Councils receiving these compensations and spending very little on amenities for the affected community.

There is serious water pollution in the mining areas. Rivers and other water bodies that serve as the source of drinking water for the communities in the mining area or downstream from it complain of serious water pollution because of the mining activities. Recently there were reports of 'galamsey' operators having dug very close to railway lines somewhere in the Eastern Region, thus putting the entire operation of the Accra-Takoradi railway services into jeopardy. Galamsey operators also nearly destroyed a forest and game reserve in the Upper East Region. In the last two cases it took the intervention of the government, the police and the army to halt the operations.

Air pollution is another serious side effect. Gold mines that are located underground usually harvest the vein-type deposits. Gold in these deposits is associated with sulfur and arsenic and to some extent nitrogen compounds. These elements consume cyanide, the chemical that separates gold from its impurities. They must therefore be expelled before the cyanidation, and this is done by roasting the powdered ore. The heating converts the arsenic, nitrogen and sulfur into gaseous oxides that are contained in the emissions from the stacks of the furnaces.

Studies carried out in some of the mining areas and their surrounding communities⁹ reveal that the ambient air, the soil, riverbeds, fish, fresh vegetables and food items are heavily polluted with arsenic and mercury. Although since 1992 the Ashanti Goldfields Company Limited company has installed filters in its stacks, it is estimated that only 90 percent of the harmful arsenic oxide is removed.

Bio-leaching technology has been introduced in the past six years. If it catches on, this method hopefully will eliminate the need to roast ores. In the bio-leaching process some special

bacteria are fed into the powdered ore; the bacteria feed on the sulfur and arsenic and give out quite harmless sulfate and arsenate products as their waste.

PUBLIC OPINION

In the light of all the harmful side effects of mining, how should the average Ghanaian view the gold industry as a whole? There is no doubt that as a nation we have very hard choices to make. Gold accounted for 44.6 percent of the total export earning in 1994, thus surpassing cocoa which had for several decades been the major foreign exchange earner for the country.¹⁰ The total production of gold in 1994 amounted to 1.4 million ounces. Small-scale mining is estimated to produce about 40,000 ounces a year, creating about 240,000 rural jobs. Indeed it is estimated that about 10 percent of the total labor force of this country works in the mines — goldmines accounting for about 85 percent of them. Can we really call for a ban on gold mining in the country? Before we attempt to answer this let us examine the facts more critically.

Ghanaians use not more than 15 percent of the total gold produced; the rest is exported for foreign exchange. We may assume that the difference between total production and total export is what is used locally (see Table 1).

The export earnings for a five-year period (1990-1995) from gold and other commodities are given in Table 2 on the next page. It is clear that since 1992 gold has been fetching the nation more foreign exchange than any other exportable commodity. Can we do without the foreign exchange from gold? The answer really depends on how much of this income stays in the country. My own guess is that at the moment not much stays because investors have to recover their costs and also to transfer their profits. The situation would have been different if there were major indigenous companies in the gold industry.

Table 1
GOLD OUTPUT IN FINE OUNCES (1990 - 1996)

	1990	1991	1992	1993	1994	1995	1996
Total Gold Production	541,408	845,908	998,195	1,261,424	1,430,845	1,708,531	1,586,094
Total Gold Export	539,110	844,922	997,763	1,210,474	1,435,475	1,689,47	1,584,380
Export of Small Scale Mining	17,233	10,437	15,145	32,518	93,922	139,535	112,220

Source: Minerals commission, Accra

We cannot fail to recognize the long-term effects of the industry on our people. The recent alarm that the gold industry is under stress worldwide adds to the ambivalence.¹¹ A number of central banks in the industrially developed countries are revising their view of gold reserves, given the belief that their economies have stabilized to such a degree, there is no longer any public function served by the security of keeping their reserves; Central Bank of Australia is reported to have sold 167 ton of its 247 tons holding. The same source said that in August 1997, the London Bullion Market Association was selling about 32 million ounces of gold daily, thus flooding the market and causing a drastic dip in the price of this formerly precious metal. More

recently the IMF has sold some of its holdings. While the long-term implications of these sales are moot, it seems that, for the moment, the preciousness of the metal has no basis except its beauty — a highly subjective attribute.

Table 2
EXPORT EARNINGS FROM SOME GHANAIAN COMMODITIES
(IN US\$ MILLIONS)

	1990	1991	1992	1993	1994	1995	1996
Cocoa Beans	323.82	313.45	276.81	250.46	295.46	361.06	--
Cocoa Products	36.80	33.08	25.6	35.41	25.22	28.42	--
Gold	201.65	304.44	343.41	433.95	548.62	647.27	694.71
Diamond	16.55	19.24	19.33	17.27	20.37	14.76	13.11
Timber & Timber Products	117.99	124.22	113.80	147.38	165.36	190.57	--

Source: Minerals Commission, Accra

Table 3
COMMODITY PRICES

	1990	1991	1992	1993	1994	1995	1996
Cocoa Beans	1,309.00	1,289.70	1,273.00	950.00	1,238.00	1,521.78	--
-\$/tonne							
Gold	383.10	364.60	345.00	358.50	382.20	383.12	432.00
- \$/ounce							
Diamond	26.00	29.00	28.00	31.20	28.40	22.88	23.42
- \$/craft							
Timber	55.70	72.00	57.70	44.80	39.10	32.10	36.88
- \$/m ³							

Source: Minerals commission, Accra

The world gold price compared to other commodity prices has experienced relatively less decline in the last decade, and in Table 3 we can see the variation in prices of gold and cocoa over a five-year period: 1990-1995. However, the current price of gold at 318 US dollars per ounce is very low, to the extent that mines in South Africa are operating at a loss. One wonders how far Ghana is from their situation.

GOLD AND CULTURE

Gold is used locally mainly for jewelry, since other industries that use gold as raw material are not functioning in Ghana. The use of gold for jewelry is universal, and recent reports indicate that gold consumption in India and China has gone up considerably. Indeed, there is the potential for higher growth if the laws governing jewelry shops are relaxed in China.

Gold for jewelry links the past of Ghana to the present. The tribes that constitute modern Ghana had once fought one another over ownership of land reputed to be rich in gold. In pre-colonial times, especially in the eighteenth century, the Ashanti State in particular fought and conquered a number of other states to the south, north, east and west for their gold, among other things. The conquest to the south was critical because it enabled the Ashantis to gain access to the coast in order to trade in gold with Europeans.

In the outcome of all those wars, defeated states or tribes had to pay taxes in the form of gold. The gold was paid to the chiefs who kept it on behalf of the state. Some of the gold was no doubt used in decorating the chiefs' regalia. The richness of the regalia was a reflection of the political power and resourcefulness of the chief and also the richness of the land and people ruled by the chief. This cultural attitude to gold has not changed. To my mind, a chief clad in gold at a ceremonial function is not being ostentatious, but rather is assuring his people that the gold is safe. Selling, stealing or causing any unauthorized changes to regalia normally constitutes enough grounds for destoolment.¹²

Can consumption of gold for cultural purposes constitute a vibrant, self-sustaining, commercial exploitation of Ghana's gold deposits? It can if we bring gold down to the reach of the average Ghanaian. Chiefs in Ghana cannot conspicuously consume any more gold than they are doing now since the metal is heavy. But more Ghanaians might be encouraged to wear gold. There is no overt cultural disrespect to the priority of the chief's consumption of gold provided no one wears more of it than he does on festive occasions when the chief is in his regalia.

CHAPTER XIII
THE EFFECT OF THE VOLTA DAM ON SOCIOCULTURAL
CHANGES FOR THE PEOPLE LIVING IN THE MANGROVE
ECONOMY OF THE LOWER VOLTA BASIN

KWADWO A. TUTU*

INTRODUCTION

This chapter documents and analyses the changing economic lifestyle of the people of the mangrove area in the Lower Volta Basin of the Volta Region in Ghana and examines the further impacts of these economic changes on the social and cultural fabric of the people. Their recently changed lifestyle is largely a result of the construction of a major hydroelectric dam on the Volta River.¹

The study area covers the area of mangroves in the Lower Volta area of the Volta Region. There are 23 main villages in the area. A survey of 60 households from 11 communities in the area were used for the socio-economic analysis. There was an estimated population of 653 people in the sample. The communities were selected at random. The villages interviewed included Agbatsivi, Agbledomi, Agordo, Anyanui, Attravenu, Bomigo, Galo, Gamenu, Hawui and Toprakdo. There were three market surveys of drivers and traders on market days at Anyanui, in order to estimate the export of mangroves and other export products from the area. There was also an in-depth survey of fish-smokers, distillers, construction workers, cutters and landowners.

The land structure termed 'mangroves' has been widely noted for its significant ecological functions including flood control and the enhancement of fish reproduction. Before the construction of the Volta Dam, the mangroves in the Lower Volta area served their typical ecological functions. The people depended mainly on farming and fishing with only subsistence harvesting of mangroves for household purposes. Fuel for smoking fish and for distilling *akpeteshie* (an alcoholic drink made from sugarcane), depended on *Vitex donicana* (locally 'foyi'), *bicularis* ('ofoyi') and neem. However, since constructing the dam, economic activity has shifted to the intensive utilization of mangroves for both domestic and commercial purposes. Mangrove related products have also become very important. Neem has become relatively scarce in the area, putting significant pressure on the exploitation of mangroves with a consequent acceleration in the depletion of neem trees.

Thus the economic lifestyle of the people has changed with these shifting production and consumption patterns. Changes in social as well as economic activities follow as a consequence, with potential changes in income distribution.

SOCIO-ECONOMIC CHARACTERISTICS OF THE AREA

Before the construction of the Volta Dam, the people of this area were undertaking mainly agriculture and fishing. The agricultural activities were food cropping (mainly cassava, maize and vegetables). Fishing activities concentrated in the lagoon, in the Volta River and a bit in the sea.

The consensus from the survey is that the dam has curtailed flooding of the Volta River. Formerly the river floods deposited nutrients in the area, fertilizing the land and increasing the fish populations in the lagoons. Since the dam's construction, the land has gradually become barren, while the fish stock has become scarce both in the lagoons and in the Volta Lake.² As agricultural and fishing activities reduced, more emphasis was devoted to the extraction of mangroves for domestic consumption as well as for sale. The significant increase in utilization of mangroves was inevitable in order to provide an income substitute and also to provide a fuel substitute for neem. Formerly, neem was a renewable energy resource in the region that has also been depleted since the dam's construction.

Preliminary figures from the Remote Sensing Applications Unit (RSAU) of the Department of Geography and Resource Development of the University of Ghana show that the total area of the study is about 25,993 ha. with a gross total mangrove cover as of 1973/74 of 9,172 ha. However the total mangrove cover has fallen to 3,283 as of 1990/91 — a dramatic fall of 36 percent within a 17-year period.³

Social Services. The area is not well-served with public utilities; it is especially deficient in potable water and sanitation. There was no potable water at all in any of the communities sampled. Almost all households depend on unprotected well water, rainwater, lake, pond and lagoon. Only about 5 percent of the households use protected wells. Almost 50 percent of the households have no toilet facilities and a further 29 percent use uncovered pit latrines. This lack of toilet facilities indicates that defecation occurs in the open, so it is likely that the sources of drinking water are contaminated with fecal matter. Unsatisfactory toilet and water facilities are well known public health risks.⁴

Kerosene is the main source of fuel for lighting at 97 percent usage, with 93 percent of households depending on fuelwood instead of kerosene for cooking. Now the primary firewood available is mangrove. Only about 5 percent of households use kerosene. Households usually supplement their mangrove fuelwood supply with neem and charcoal. This practice signifies the pressure on mangroves for domestic activities. Households prefer mangrove to other sources of fuel for cooking because of its availability. Most households (62 percent) would revert to using neem if mangroves were not available, with only 3 percent preferring gas. Apparently the household decisions about what fuelwood to use depend entirely on availability. This suggests that any policy that provides incentives for households to plant suitable wood for cooking is likely to be patronized. Few households will use gas because the minimum price of a simple two-burner stove is an exorbitant amount — 50,000 cedis.⁵ The evidence presented in this essay indicates the very presence of the dam has had considerable negative impact on the people living in this region. At the same time these inhabitants have not benefited from the primary product of the dam, which is electricity.

Ironically, the area is relatively better endowed with healthcare facilities than with basic water and toilet amenities. Consequently, when a family member is sick about 83 percent of the households will consult either a hospital or clinic, with only 15 percent consulting a traditional herbalist.⁶

Schools. The villages of this region tend to be clustered together and almost all the village clusters that were visited had functioning primary schools, although the facilities were poor. Isolated villages do not have primary or junior high schools. Pupils have to go to nearby clustered villages where there are primary and junior high schools. Out of the 653 people in our

sample of 60 households, only 27 percent read and write. 21 percent have completed vocational schools and only 2 percent have completed technical schools. A total of 278 interviewed adults consider themselves as unemployed while 354 work in the 'informal' sector.⁷ The low level of literacy in the Lower Volta Basin is due to the lack of formal jobs attracting employable individuals with literacy skills. All the literate people migrate to the urban areas.

Presently the illiteracy rate is likely to be higher than before the dam's construction, granted the generally low level of employment in Ghana nationwide. A low level of employment and a high rate of unemployment jointly lead to a low return on formal education. Together with the disproportionately high cost of maintaining a child in school and the consequent loss of the child's labor value, currently there is an increasing disincentive for parents to send their children to school.

The high proportion of illiterate people is likely to increase even more now because of the ever-diminishing economic opportunities in the region. Even the trained craftsmen are likely to migrate to the urban areas where the higher rate of economic activity will demand their skills.

Mangrove Related Economic Activities. We have indicated that mangrove extraction as an economic activity has been a recent phenomenon with the onset of the dam's operation. Our survey revealed that before the dam, mangroves were rarely used for household consumption. This was because neem trees were abundant. Neither was mangrove relied upon as a major commercial venture because the dominant activities were farming and fishing. With the dam, there has been a major shift in economic activity from agriculture and fishing to mangrove-related activities.

Presently the major economic activity in the area is the harvesting of mangroves for household and commercial uses. There are also other mangrove products such as crabs, fish and black snails that are now consumed and traded.⁸ Several interviews revealed that about 80 percent of mangroves are used for fish smoking, with the rest applied to akpeteshi distilling (an alcoholic beverage made from sugarcane), cooking, and construction of houses. In Atravenu, Agbatsivi, Galo-Sota and Atoprakpo, 85 percent of the roofs were thatched with mangrove poles and mangrove stems used in the roofing. However, in a few big villages such as Anyanui most of the roofing material is corrugated iron sheets with only about 20 percent of the houses being thatched. The majority of the villages have an average of 70 percent thatched houses.

PRODUCTION AND MARKETING OF MANGROVES

Land Tenure Arrangements

There are several land tenure arrangements in the production and marketing of mangroves. Land is generally owned by families, and typically most of the land is owned by the people of Gamenu. Normally it is men who own land. There are several types of land tenure arrangement. There are some landowners who are also cutters.⁹ Some owners also lease out land to cutters to plant and maintain. After harvesting, the return is usually shared equally between the owner and cutter. The cutter bears all the costs involved in planting, maintenance and harvesting. In this type of arrangement, sometimes the cutter can bargain with the owner and buy him out before harvesting. In such a case, the cutter normally pays 50 percent of the estimated yield to the owner. The average plot of land used by the people is the 122 double arm length. This is about 0.05 ha. or a tenth of an acre.

In another tenure arrangement, the owner leases out land to a cutter for a fee that ranges between 60,000 and 100,000 cedis per plot (roughly the equivalent of US\$ 24-40). When the mangrove has matured and is harvested, the land reverts to the owner's possession. If the cutter managed the farm properly, he or she will continue to farm the land. In some cases, leases of land are quite long. Yet another arrangement involves an owner managing his own farm and then selling the mangroves to someone else to cut when matured.

There do not seem to be any procedures in place for drawing up proper contracts nor is there legal enforcement for any of these arrangements. At least one owner expressed fear of losing his land if it were leased out to young and energetic cutters who could manage the farm properly. The basis for his fear is that it takes up to 15 years for mangroves to mature; in that time a tenant could indeed take over the land. In cases where cutters buy matured mangroves but are unable to complete the harvesting, the remaining yield is taken over by the owner. The absence of written and enforceable long-term contractual arrangements generally discourages correct land management practices. For without a properly enforceable contract, the tenant has no security that the land will belong to him for a long time; and so he has no rational incentive to invest in its care.

This situation reveals the erosion of old systems that sustained trust in traditional land-leasing practices. Formerly, *morés* and codes of conduct inherent in village society rendered written contracts superfluous. In the 1940s and 1950s, the existence of barter systems and several complementary subsistence economic activities, together with the prevalence of strong and well-respected traditional values and codes of conduct insured that verbal contracts were binding. But now, given the predominance of a cash economy and the purported 'modern' value system, there is an urgent need to establish written enforceable contracts to improve ownership systems and to encourage good management practices.

Farm Management Practices

Some cutters plant both red and white mangroves, although the red mangroves (*Rhizophora racemosa*) are more popular. The two reasons for this preference are that the red variety gives an attractive color to smoked fish, and it lasts longer during the smoking process. The white mangroves (*Avicennia africana*) generally give off black smoke.¹⁰ The consensus of opinion when speculating the period of maturity was 8-10 years for white mangroves on good soil and 10-15 years for the red variety.

There is some agreement among those involved in mangrove production that replanting be practiced. Sometimes thinning is required to achieve the right spacing for high productivity. This repositioning of seedlings can occur immediately after harvest. In some post-harvest plots, it is possible to see meter high seedlings that are easily removed from the mud and can be easily relocated to another muddy area. Proper seed relocation may entail only one hour of relatively easy labor for a 122double arm's length plot.

However, there is no consensus about the need to thin mangrove stands and thereby to encourage the growth of large thick trees. Some cutters suggest that the value of the dense mass of thin branches and roots has greater value than larger, less dense trees, even after accounting for the premium price that is paid for thick logs and the relative ease of transporting larger logs. Given this difference in value of yields, the incentive to remove and reposition mangrove seedlings can be easily appreciated.¹¹

According to indigenous knowledge of the region revealed during interviews with contractors, the plant species *Typha* (locally named 'ava') is complementary to mangroves. The local experience has been that wherever these grow, mangroves thrive well. The explanation is that *typha* grows in non-salty soil, also suitable for mangroves; and when mangroves and *typha* grow together, the latter finally dies and serves as manure for the mangroves.¹²

Weed control seems to be the most intractable problem for mangrove management. One particular weed, the pan-tropical fern called *Acrostichum aureum* (locally 'alema'), directly competes with mangroves for space and nutrients. In some cases, hectares of land are taken over by fern and no mangroves can be grown there. The consensus is that fern is a very difficult weed to control and a major obstacle to mangrove production. The normal means of control involves a lot of labor: cutting down the branches, burning the plant, removing the roots and replanting the mangroves in the area. This is the most effort-intensive part of the cutter's job.

Those interviewed recommended specific improvements in mangrove management to achieve higher productivity. In the household survey, 60 percent claimed that mangroves are now properly managed while 40 percent disagreed. There was concurrence that the chief effort required is weed control. One positive aspect of the recent intensification in mangrove extraction is the indigenous knowledge that has accumulated through this activity. This knowledge will be important for designing sustainable management policies. If such policies are designed with the input and active involvement of expert stakeholders, then their implementation will be smooth.

Opportunity-cost of Time

As already described, before construction of the Volta Dam the main activity of this area was freshwater fishing and farming. During that time mangroves were not important assets. They were harvested only occasionally for local household consumption. The interview revealed that formerly people from outside the area were used to be invited to harvest mangroves for free. The reason for doing this was to release any fish hiding under the mangroves into accessible waters for increased fish production. But now with the presence of the Volta Dam, the drying up of wet areas and the salinization of the land, agricultural and fishing activities are no longer prominent. There are very few fish left in the fresh waters, possibly due to recent overfishing, as well. Economic activity centering on mangroves has now become the order of the day. As noted already, the increased demand for mangroves is also due to a shortage of neem trees.¹³ There is also a resultant increase in the price of mangroves over time, despite the increased supply. Economic activities other than mangrove farming and mangrove-related produce are subsistence agriculture and mat weaving.

As part of the survey, villagers were asked to speculate about alternative employment options in the absence of mangroves. Of those that responded, 25 percent said that there were no alternatives. The rest suggested fishing, farming and mat weaving. The calculated average daily return on mat weaving is 1,785 cedis (the equivalent of 70 to 80 cents in US\$ currency). It can be inferred that 75 percent of adults currently harvesting mangrove related products have an opportunity-cost of time of 01,785 per day. All children under 18 and the rest of the adults were assumed to have no opportunity-cost of time.

OTHER USES OF MANGROVES

We have indicated above that mangroves are used principally for fish smoking and for home cooking. Other uses include house construction (chiefly for thatched roofing) and forakpeteshi distilling, as detailed below.

The smokers buy fish in small or big-sized bowls. After smoking about 90 percent of the smokers sell the product in Accra. Upon calculation the return on smoking an average bowl is about 6,000 cedis, and with an average of 10 bowls a week during both bumper and lean seasons, the net return for an individual fish smoker is about 60,000 cedis per week (approximately US\$ 24).

Akpeteshi Distilling. Like fish smokers, these agents use any fuel that is available. Those that work near the coastal mangrove zone rely on mangrove wood. It is estimated that there are about 30 distilleries in the Lower Volta Basin.

Roofing. Interviews were held with 13 people normally engaged in roofing. This is not a daily activity; but a lot of mangroves are used to thatch one roof. In about 80 percent of the villages, the ratio of thatched roof to corrugated iron roof is 80/20. The estimate for roofing one room using the cost of mangroves and roofing palms comes to 40,525 cedis per room while the cost of labor is 15,750 cedis. The total cost of a thatched roof for a room comes to 56,275 cedis. Since the average number of rooms in a house is three, the total cost for thatching a house is 168,825 cedis.

Returns on Mangrove-related Harvesting. Information concerning cash returns for mangrove cutting, fishing, crab collecting and other harvesting was solicited as part of the survey. Responses to these questions were relatively complete. From this data it was estimated that villagers earn 80 percent of their income from mangrove products and the rest from farming and mat weaving. It is assumed that 80 percent of their working time is devoted to these enterprises. Villagers were also asked to place a value on the mangrove wood, crabs and fish that they harvested and consumed themselves. These values were totaled to provide total returns for mangrove related harvesting to the 643 members of the sample households. This figure was then adjusted to account for the estimated 10,000 people in the study area. This comes to about 144,000 cedis (US\$ 58) annually per person in a household. Approximately 41 percent of this benefit is from mangrove wood. The remaining 59 percent of the benefits come from crabs, fish and other harvesting activities. This return per person is very high compared to an average annual income of about 50,000 cedis for a rural worker, estimated by the 1991\92 Ghana Living Standards Survey.¹⁴ However the implications in terms of income distribution vary. The return on mangrove wood goes to only a few people who are owners and cutters. If this limited benefit is factored out, then the average earnings per person per household will be far lower in a village.

CONCLUSION

This study has revealed that as a result of the Volta Dam, the production and consumption activities of the people of the Lower Volta area has changed from that of agriculture and fishing to mainly extraction of mangroves. There is now a higher proportion of illiterate people due to migration of skilled workers away from the area. Meanwhile the erosion of traditional morés and

codes of conduct necessitates the establishment of written, enforceable contracts to achieve a sustainable management of mangroves. Such practices were never needed before the dam's impact, and so they indicate a significant change in socially condoned conduct of the region.

The study revealed an increase of indigenous knowledge concerning mangrove cultivation that might be used in a participatory manner to maintain a proper mangrove management policy. Although agricultural activities and fishing have been curtailed, the earnings from mangrove related activities are an adequate substitute. The only problem is that there is too much exploitation of mangroves, given the abrupt impoverishment of the ecology; this is yielding a rapid depletion of the mangrove itself as a resource. If proper management practices are put in place — including weed control, proper thinning strategies, enforceable land contracts and possibly replanting of a substitute wood — then the new economic activity of mangroves will turn out to be a second best.

NOTES

* The author wishes to acknowledge the crucial role of his ODA project collaborator Robert Hearne, of the International Institute for Environment and Development (London), in the development of this chapter.

1. This analysis is part of a broader multidisciplinary project begun in December 1986, funded by the Overseas Development Agency (ODA). The objective of the project is to understand the mangrove economy and to prescribe policy measures to manage this economy sustainably.

2. The depopulation of the fish is a likely result of overfishing, since agricultural activity has reduced significantly, with a consequent increase in fishing.

3. These figures must be used with caution and therefore should not be quoted since they are yet to be validated by RSAU.

4. Since water is rarely boiled, diseases such as diarrhea are likely to be prevalent. An adequate supply of accessible, potable water is crucial to households' welfare and is a prerequisite to good hygiene and sanitation (Songsore, 1992; p. 5). Many health problems are linked to poor water quality, lack of availability, difficulty of access and inadequate provisions for waste disposal cf. Harody et. al. (1992); Cairncross (1990).

5. At the time of manuscript production, the rapidly falling cedi was worth approximately 2,800 per US dollar.

6. Such a low percentage of the local population relying on traditional health-care delivery radically diverges from the nation's norm; cf. Addae-Mensah, "Biodiversity, herbal medicine, intellectual property rights and industrially developing countries," in this volume.

7. For explication of the term 'informal' sector, cf. K. Ninsin, "Informalization and Ghanaian Politics," this volume.

8. Typically, black snails are not consumed locally; this dietary change is a response to the changing material base.

9. A 'cutter' is someone who plants the mangrove, maintains it and cuts it when mature.

10. Some fish smokers prefer a special species of the white mangrove because it gives off a white smoke.

11. An ongoing monitoring system to evaluate the relative productivity of thinned vs. unthinned plots would be valuable in the development of a sustainable management strategy.

12. This indigenous observation remains to be tested scientifically by the soil scientist and hydrologist.

13. The initial remote sensing results, yet to be verified, show a fast rate of neem depletion.

14. To give meaning to these income figures: monthly rent of a one room chamber for a family with children in the city and suburbs of Accra is about 35,000 cedis; To serve home-cooked rice for a month to a family of six costs about 40,000 cedis; a chicken for roasting costs 10-14,000 cedis. A gallon of gasoline costs 5,000 cedis (roughly two dollars).

REFERENCES

Cairncross, S. (1990) "Water Supply and the Urban Poor," in Cairncross, S. et. al. (eds.) *The Poor Die Young: Housing and Health in the Third World*, London: Earthscan.

Gammage S. (1997) "Estimating the Returns to Mangrove Conversion: Sustainable Management or Short Term Gain?" Discussion Paper No. 2., *Environmental Economics Program*, London: IIED, forthcoming.

Hardoy, J.D. and Satterthwaite, D. (1992) *Environmental Problems in Third World Cities*, London: Earthscan.

Shenker, J.M. and Dean J.M. (1979) "The Utilization of an Intertidal Salt Marsh Creek by Larval and Juvenile Brown Shrimp," *Estuaries*, 2, pp. 154-163.

Songsore, J. (1992) "Review of Household Environmental Problems in the AMA, Ghana," in *Stockholm Environment Institute Working Paper*, Sweden.

CHAPTER XIV
THE NUCLEAR OPTION FOR GHANA
J.K.A. AMUZU

INTRODUCTION

All countries, particularly the industrially developing ones, share a common concern over energy. In today's economic environment, inflated energy prices are still on the rise and oil sources are growing more tenuous. So many industrially developing countries, having fuelled their progress by importing oil, now face additional challenges to maintaining or increasing their growth. In the early 1970s oil supply problems and dramatic oil price increases became facts of everyday life; which then led industry and research institutions to increase their efforts in the development and improvement of energy conservation techniques and energy supply alternatives.

Today, the panic of previous years concerning oil seems to have given way to a mood of optimism. However, world forecasts of energy supplies and demands up to the year 2000 indicate that this new optimism is unjustified. By adopting various scenarios and speculating from alternative assumptions about relevant factors (such as population and economic growth), projections for world energy requirements in the year 2000 stood at roughly 400 to 100 quod.¹ All the recoverable non-renewable energy resources of the world put together stand at 161,000 quods, of which crude oil accounts for only six percent and natural gas for five percent.² Many analysts believe that conservation and greater reliance on non-fossil and renewable energy resources is the key to bringing under control our insatiable appetite for oil. Fortunately, several energy resources that make it possible to do this are found all around us. Solar energy is above; wind and biomass surround us; nuclear potential lies below; and buried even more deeply beneath the surface of the earth lies the enormous reserve of thermal energy associated with the earth's hot interior.

On November 25, 1964, Dr. Kwame Nkrumah, the first president of the Republic of Ghana, declared:

We have been compelled to enter the field of Atomic Energy, because this already promises to yield the *greatest economic source of power* [emphasis mine] since the beginning of man. Our success in this field will enable us to solve the many-sided problems which face us all, in all the spheres of our development in Ghana and Africa.³

It was clear that Nkrumah had decided to lead the country along the path of the nuclear alternative.

Several events probably drew him to make that decision. Firstly, a general awareness of the enormous potentials of atomic energy had begun to grow in the country with the initial experiments involving the application of radio-isotopes at the University of Ghana (Legon) in the early 1950s. Secondly, around 1958 a nuclear fallout monitoring service was undertaken by the University of Ghana on behalf of the Defense Ministry, whose administrators had become concerned over potential public hazards from radioactive fallout arising from nuclear weapon tests. Out of these efforts came a proposal from the Physics Department of the University for the establishment of a Radioisotope and Health Physics Unit under the aegis of the National

Research Council. The activities of the Unit included the provision of health protection monitoring services for users of X-rays and other penetrating radiations, monitoring of radioactive fallout and the establishment of specialized facilities and research equipment for work in atomic physics.⁴

THE GHANA NUCLEAR REACTOR PROJECT

In 1961 came the decision by the government to initiate the Kwabinya Nuclear Reactor Project, "to introduce nuclear science and technology into the country and to exploit nuclear energy in its peaceful applications [for] the solution of problems of national development."⁵ Viewed in contrast to the modest activities initiated at the University, this decision represented a huge leap. Among the initial tasks was to set up the Ghana Atomic Energy Committee in order to implement the Project. This committee was later replaced through an Act of Parliament, by the Ghana Atomic Energy Commission (GAEC) in 1963. It is mildly surprising that the initial agenda of the GAEC included building a nuclear research reactor, since the training of staff had only just begun. As it turned out, the bilateral agreement with the former USSR under which the Project was to be executed provided that scientists and technicians from the former Soviet Union were to man the initial stages of the project. It was no wonder, therefore, that when the First Republic fell the coup-makers suspended the project, for they disliked President Nkrumah's close ties with the East. Indeed, at the time that the change of government occurred, work on the physical structures had reached such an advanced stage that the whole project would have been completed and commissioned by the end of 1966.

At this point, Sir John Cockcroft, the renowned British physicist, undertook a review of the nuclear project for the new government. He concluded that a reactor was not necessary for the research envisaged, and that the operation of a reactor would require too large a proportion (about one-third) of the total number of physicists and chemists in the country. Further, in his view the capacity of a recently commissioned hydroelectric power plant was so great that a nuclear power plant would not be needed for some twenty years.⁶ Consequently, the Project was scaled down to the establishment of a National Center for Radioisotope Applications. The Radioisotope and Health Physics Unit at the University at Legon was subsequently transferred to the new Center at Kwabinya. These reorganizations led to the departure of a number of the scientific and technical staff specifically trained for the Reactor Project.

There is some irony in the fact that it was another group of coup-makers who decided to reactivate the Ghana Reactor Project in 1973, following another review. A new management committee and a Reactor Technical Committee were appointed, and once again the site of the Project bristled with feverish activity. Setting aside Sir Cockcroft's earlier advice, arrangements were again initiated to acquire a research reactor. This time the management turned to the former Federal Republic of Germany (FRG). A one megawatt reactor belonging to Frankfurt University was to be donated by the state of Hessen to the government and people of Ghana.⁷ Fortunately, the newly elected government, which succeeded the military regime that had reactivated the Project, fully supported these fresh moves towards acquiring a reactor. The government therefore signed all papers and made payments towards the dismantling of the donated reactor in Germany, its shipment to Ghana and subsequent assembly at the Project site at Kwabinya, outside Accra. But before any of these things could happen, a fresh set of coup-makers arrived and the government of the former FRG cancelled all the arrangements.

By this time, in 1981, the National Nuclear Research Institute (NNRI) had already been established and therefore was obliged to carry on without a reactor. Its research activities and services included radiation protection, nuclear medicine, sterilization of medical and pharmaceutical products, environmental monitoring, food preservation, pest control and planting-material conservation. Meanwhile, the ambition to acquire a reactor remained undiminished. With massive support from the International Atomic Energy Agency, a Chinese 30-kilowatt miniature neutron source research reactor was installed and became operational in December 1994.

Since the NNRI now has only a small research reactor, the prospects for harnessing nuclear energy to generate electricity for the whole country are on hold. Furthermore, no commitment to nuclear power has been expressed by the government of Ghana since the idea was proposed by President Nkrumah back in 1964. Consequently, it would be useful to discuss here whether the nuclear option for generating electricity nationwide is indeed a viable proposition for Ghana at this time. In this analysis we shall endeavor to avoid the selective and politicized approach which is sometimes apparent in writings on the various facets of the nuclear debate.

NUCLEAR POWER IN INDUSTRIALLY DEVELOPING COUNTRIES

As indicated earlier, rapid escalation of the world's energy requirements and doubts about the sustainability of conventional energy sources have led many to focus on nuclear power's promise of cheap electricity: one pound of nuclear fuel (uranium 235) the size of a golf ball can create as much energy as 1,500 tons of coal.⁸

However, nuclear power is now counted among the most controversial items on the world scene. It is something that divides people—you are either for it or against it. This is partly because it is a radically new energy source involving forces that have never been released on Earth before. The reasons are also historical; since the Hiroshima and Nagasaki crises, many people have grown to dread anything at all that is labeled 'nuclear'. Some observers claim that important yet unresolved practical questions stem from the use of nuclear power, e.g. the problem of safe nuclear waste disposal. Others see this form of energy production as a grotesquely extreme form of mega-technology.

For industrially developing countries, except for a few of the largest and most technically advanced, the advantages promised by nuclear power are largely illusory. The very high capital cost and the difficulties with international agreements and restrictions on fuel supply may be the main obstacles. There is also the fact that currently the smallest available power-generating reactor is quite large in relation to the system size for most of these countries, and this consideration proves to be unhelpful in negotiations for funding. Hence it is argued that perhaps only India, Brazil, Pakistan, Israel, Argentina, Egypt, Korea, Mexico, The Philippines and Thailand could economically utilize the power plants that are now commercially available.⁹ Of these, none except the last four have ratified the Nuclear Non-Proliferation Treaty (NPT). As such, these countries would face additional obstacles in negotiating agreements for the supply of critical components of a plant.

THE PROSPECTS FOR A NUCLEAR POWER PLANT IN GHANA

Unanimously, scientists at the NNRI agree that nuclear power is a viable option for the formulation of a coherent, rational energy plan which will enable the country to meet the

consumption levels required for sustaining her socio-economic development and for protecting the environment. They base their support on several considerations. With about a third of the total electricity production from the country's hydroelectric plants exported to countries in this sub-region of West Africa — 45 percent taken by the smelting plant of the Volta Aluminum Company (VALCO) — only about 20 percent is available for domestic consumption. An oil-fired thermal plant is nearing completion, and this will provide an additional 100-megawatts of electricity; this same plant will be upgraded to 300 megawatts by 1999. Further, it is hoped that the large reserves of gas which the country appears to possess may eventually make it possible to replace oil with gas at this thermal plant in the near future. On the other hand it is argued that the drive to curb the use of fuelwood, in a bid to preserve the environment, may be undermined by such a development since this could mean the diversion of gas from its use as domestic fuel. Although about 1,000 megawatts of power remain to be tapped from the country's hydroelectric energy potential, this can only be achieved with many relatively small dams. The environmental impact of several small dams may be as unacceptable as that of coal-fired plants. Large tracks of arable land will have to be sacrificed to build these small dams. Also, subtle changes in the local climate and the risk of water-borne diseases becoming endemic are troubling consequences that could come with these dams.

These are only some of the arguments that have convinced the researchers at the NNRI that the energy future of the country may be considered secure only if nuclear power becomes a serious option. The NNRI scientists report that GAEC:

. . . has embarked on the training of a core team of engineers and economists in the area of energy and nuclear power planning, in the hope of building up the country's expertise to plan effectively for the future role of nuclear power in meeting the country's energy requirements beyond the year 2020.¹⁰

The Safety of a Nuclear Power Plant in Ghana

Certainly a decision by the government to build a nuclear power plant in Ghana would take full cognizance of the rigor required in the safety regimes of its operation. But just as clearly, the country's track record in the mitigation and management of disaster indicates that there is cause for concern. An accident at a nuclear power plant is not like any other accident. This is why after Chernobyl, people a world away from the site of the accident could not consume beef without the legitimate worry that they might be feeding themselves poison. Eleven years after the Chernobyl disaster, an area of radius up to 30 km from the site remains an exclusion zone; more than 100,000 people who were initially evacuated cannot return.

The release of radioactivity into the atmosphere during normal operation of nuclear power plants is only a small fraction (less than 1 percent) of the release from other sources such as nuclear weapon test fallout, cosmic rays and medical diagnoses. Nonetheless, there are many who believe that so long as the effects of small doses received over a long period of time remain undetermined, nuclear plants must be viewed with suspicion.

It is generally agreed that commercial nuclear power plants that have accumulated more than 800 reactor-years of operation in the United States have an excellent safety record. However, it has been suggested that the decision always to locate nuclear reactors in isolated places manifestly contradicts the claim that the chance of accidents at nuclear plants is no greater than the risk of accidents at oil refineries. Thus it is troubling that not all the compliance actions had

been taken by the NNRI several months after the research reactor became operational. For example, the fire protection system had not been completed and communication infrastructure was inadequate. Even more troubling is the fact that although the scientists at the Institute knew exactly what to do they were constrained by lack of funds, telecommunication system, and other logistics. There is little comfort in the realization that some of those government officials and policy-makers that might be responsible for taking future decisions in the running of a nuclear power plant may be wholly unaware that nuclear technology and its safety precautions admit of neither budgeting short cuts nor any half measures.

Broader Issues

There are several more general issues that drive the nuclear power debate. Firstly, the problem of nuclear weapon proliferation is real. Militarily useful weapons with yields in the kiloton range can be constructed using reactor-grade plutonium separated from the spent fuel elements of a reactor.¹¹ This is why so much attention and anxiety have been focussed on the possibility that non-nuclear weapon states with civil nuclear programs might acquire nuclear weapons, especially those having access to reprocessing technology. The Non-Proliferation Treaty has remained contentious among 'Third World' leaders who resent the injustice they perceive in endorsing nuclear weapons for the world's most powerful nations while outlawing them for the industrially developing nations. Hence 'Third World' countries — including those (like Ghana) that have ratified the Treaty — are forced to contend with obstacles erected by the nuclear-empowered states within the international agreements required to develop civil nuclear programs.

Secondly, although there is a lot of uranium in the ground, less than one percent of it is the key isotope, uranium 235, upon whose fission nearly every reactor in the world today is based. It would appear that if present projections about the expansion of nuclear power are correct, and if the mining of various grades of uranium ore (mostly uranium 238) remain economically viable, then one can predict that conventional reactors will exhaust all the economically recoverable uranium 235 in some 40 or 50 years. However, the emerging technology of the breeder reactor can change this outcome. Breeder reactors are designed to produce electricity and, at the same time, to 'breed' more fuel than they consume to generate electric power. They are able to utilize the abundant but otherwise useless uranium 238 in the artificial production of the fissionable plutonium 239. This way the breeder reactor can stretch uranium resources by a factor of about 100.¹² If this were to be the case, then — like the sun and like fusion fuel — using uranium in breeder reactors would mean essentially having an inexhaustible source of energy. However, because it is conceivable that a breeder reactor core could explode like a poorly designed atom bomb (nuclear explosion cannot occur in a conventional reactor) its future is legitimately shrouded in intense debate and is largely uncertain.

Also, there are many who fear other problems that are uneliminable not only at reactor sites but also at processing and reprocessing plants, waste disposal sites and during transportation of nuclear materials. The ever-present possibilities of theft or sabotage increase the security worries of a world already troubled by acts of terrorism if rapid expansion of the nuclear plant industry is encouraged.

DOES GHANA NEED NUCLEAR POWER?

Most arguments for expanding and diversifying the energy infrastructure of a country have been based on the assumption that the pace of economic development may be seriously retarded if adequate and cheap supplies of energy are not available at the right time, in the right place and in the appropriate form. The OPEC embargo of the early 1970s caused serious dislocations in the economic activities of several countries. That embargo also demonstrated that it is possible for some countries to get along with much less electric power than they now consume, or at least with a much lower expansion rate. For example, in the United States electricity demand grew by about seven percent annually from 1900 to 1973. Following the 1973 embargo the growth in demand fell to only one percent in 1974 and two percent in 1975; since that time the rate has hovered around three percent. A survey concluded that "the United States can do well, indeed can prosper, on much less energy than has been commonly supposed;" and that "achieving low energy growth will not be easy nor cheap, but it will be far easier and less costly than achieving high energy growth."¹³ Another analysis indicates that conservation can greatly reduce the need for both nuclear and coal power during the remainder of this century, and that the renewable sources can be phased in fast enough to provide a significant fraction of our needs by the year 2000.¹⁴

It would appear, therefore, that given the uncertainties regarding the future technology for generating nuclear power, the decision to build these plants must not be taken in a hurry. Meanwhile, the NNRI is doing marvelous work in its varied applications of nuclear energy in the fields of agriculture, health-care delivery and industry. Radiation disinfestation is being used in the preservation of a wide range of foodstuffs, in an economic environment where food distribution and marketing are otherwise severely constrained by shortfalls in preservation technology. There is a project to eradicate the tsetsefly by radiation sterilization of large numbers of the male insects and releasing them into the environment. Research into new and improved varieties of crops (with such characteristics as higher yields per acre, early maturation, pest-resistance and disease-immunity) promises to make a significant impact on the country's food production. In the field of health-care delivery, the Health Physics Unit carries out routine checks of radiation levels and leakage on every X-ray machine in all of the country's hospitals as well as other sources of ionizing radiations. Scientists of the Unit also assist doctors in the diagnosis of several diseases including cancer. The analysis of geological samples (as an aid to the search for minerals and for the determination of the elemental composition of atmospheric pollutants) is carried out by the X-ray fluorescence laboratory of the Institute. The acquisition of the small research reactor has extended the range of public and private service activities of the Institute's various sections; it also facilitates training scientists and engineers in several aspects of nuclear technology.

It may well be that these very useful activities involving the presently installed small research reactor should be continued and expanded at this time when nuclear power is still intensely controversial and its future prospects are so uncertain. A political decision to build a nuclear power plant may only serve to deflect the attention of the nation's scientists away from their current crucial contributions to agriculture, medicine and industry. Additionally, over the years of their policy making, governments in Ghana have tended to view the delicate considerations concerning technical feasibility as arbitrary matters of superficial opinion or academic hair-splitting. There is a real danger that the future development of a nuclear power policy may focus too much on political and economic issues and too little on crucial technical concerns.

It is possible that Ghana's efforts at industrial development can be seriously derailed if other sources of electrical power are not developed soon. Otherwise there may not be enough time to phase in the renewable sources. The relevant question then becomes: how do the problems of nuclear power compare with problems inherent in using other sources of energy? (This concern should replace the simple-minded question of whether nuclear power carries any problems.) However, it is crucial that there be a clearly demonstrated ability to frame such comparisons in a sober, rational and technically-driven atmosphere. At some point in the future most of the controversy and highly publicized anxieties about nuclear energy will be finally resolved. If at that time Ghana finds that she can get along without having to join the ranks of the nuclear elite, I suspect there are many who will think that is a better option.

NOTES

1. A quod is a quadrillion i.e. one thousand million million British thermal units (Btu). One barrel of oil contains about 5.8 million Btu and 100 cubic feet of natural gas about 1.02 million Btu.
2. E. Carim, ed., *Third World Development*, volume 1 (London: Grosvenor Press, 1984), p. 328.
3. "At a Glance," *GAEC* (1988) Publication No. 2. 88.
4. *Kwabanya Nuclear Research Establishment Handbook*, (1977), p. 5.
5. *GAEC*, (1976) Status Report 1962-1973, p. 3.
6. *Ibid.*, p. 6.
7. From a speech delivered by Dr. K. Kyere, Director of NNRI, on the occasion of the Open Day of the Institute, June 1993.
8. "Electricity and the Environment — the Answers to your Questions," pamphlet of the Edison Electric Institute (1987) p. 31.
9. "Energy Options and Policy Issues in Developing Countries" *World Bank Working Paper*, No. 350 (1979) p. 74.
10. Much of the data on the electricity production and consumption patterns of Ghana was obtained from discussions with Dr. J.J. Fletcher and Dr. H.O. Boadu, both of NNRI, and from a paper they were preparing jointly for a forthcoming conference on energy.
11. The very few pounds of uranium 235 used in the Hiroshima bomb released nuclear energy approximately equal to the chemical energy that would be released by exploding 15,000 tons (i.e. 15 kilotons) of TNT.
12. A. Hobson, *Physics and Human Affairs* (New York: John Wiley & Sons, 1982), p. 361.
13. *Ibid.* p. 374.
14. *Ibid.*

EPILOGUE
SOME THOUGHTS ON THE FUTURE OF GHANAIAN
UNIVERSITIES

J.S. DJANGMAH

The essays in this volume were produced in the finest tradition of the university. Judging from their resumé, contributors were well-trained initially in the University of Ghana system and then exposed to the academic tradition in some of the best institutions in the world outside Ghana. The contributors are now located in Ghana but represent a microcosm of rigorous international research and debate. What are the prospects for maintaining this tradition as the present core of staff retire from the university and it faces seemingly insuperable difficulties? It is argued here that the academic staff must be actively involved in the search for solutions to the university's problems.

Academic institutions in Ghana, as in many other parts of the world, are public institutions that depend largely on government subvention. Students, the chief beneficiaries of higher education, contribute little to teaching costs. Inadequate funding of African universities has seriously constrained their capacity to discharge fully their responsibilities to their host countries. Studies conducted for the Association of African Universities and the World Bank have documented the effect that inadequate funding has had upon the universities. Ghanaian universities also face these well-publicized problems which are associated with university education in most sub-Saharan African countries. Deterioration of the academic infrastructure, poverty-level wages and poor conditions of service for faculty and administrative staff, shortages of books and laboratory materials, discontinuation of journal subscriptions, inadequate supplies of computer and communication equipment, all are symptoms of the inadequate funding of universities in Ghana and throughout Africa. New staff, qualified at the doctorate level, are not being recruited in sufficient numbers in key areas like mathematics, statistics and computer science. This problem extends to the humanities. Retired faculty members are perpetually retained to fill vacancies. This can only be a temporary measure as they will leave the scene sooner rather than later. Without expansion of the academic facilities and with inadequate maintenance of existing facilities, the university is unable to admit the many new students who qualify for admission each year. Three out of five qualified candidates fail to gain admission. Many a time the academic calendar is interrupted by strike actions of both academic and supporting staff. The inadequate wage structure has been challenged steadfastly and unsuccessfully; indeed it cannot be corrected by government, because the enforcement of structural adjustment policies requires slashing tertiary education costs dramatically in the interest of foreign debt-servicing.

To sustain the university ideal in the face of these difficulties requires finding satisfactory solutions to some of the institution's pressing needs. The issues of inequitable staff pay, dwindling of university overall income and the pressure to expand student enrollment are rarely addressed through sustained debates in which the current academic staff are actually participating. Some of the personnel from international development agencies whose voices are determining the future of African education are hardly known to the Ghanaian academic staff. It is argued here that the local academic staff must join in the search for solutions rather than channel their energies of protest solely through one-shot attempts at strike action that lose them more friends and integrity each time such strikes fail.¹

Currently, the local faculty embodies the late Nkrumah's ideal of quality education forging the path of a new nation's future. As the current faculty retires, however, this ideal is manifestly ebbing away. Current trends in policy making indicate it may disappear altogether. Without vigorous countermeasures, World Bank policy will turn once internationally famed universities, such as Legon, into glorified vocational schools. Private funding may take the driver's seat of tertiary education in Ghana, servicing the interests of multinational corporations and other private entrepreneurs with the narrow capital-driven rationale of training their own future employees.

HISTORY

Starting with the University College of the Gold Coast founded in 1948, Ghanaian universities were conceived as state institutions to train the high level manpower needed by the newly independent country to run the apparatus of a modern state. Thus the university had a mandate to produce people to take over the administration of the central government and public services from the British expatriates who were then in charge. The government made available generous land and financial resources to provide the university with its imposing buildings and academic facilities, accommodation for staff and students. When completed, the enormous Legon campus was easily the finest collection of public buildings in the nation's capital of Accra. The university was, without doubt, a source of pride to the government, to the students and to the people of Ghana. This writer remembers the steady stream of state visitors who were driven to see the university. Legon became a full-fledged university in 1961.

The Legon example of well-appointed buildings set within a pleasantly landscaped, expansive campus was replicated at the University of Science and Technology at Kumasi when it was upgraded into a full-fledged university in 1962. The University of Cape Coast (UCC) followed suit also in 1962, as the University College of Cape Coast, becoming a full-fledged degree-awarding institution in 1971. The government acquired a large tract of land and commissioned the design of beautiful buildings to house the university administration, academic departments, staff and students, as well as sport and recreation facilities. Most of the buildings and the landscaping could not be completed before the fall of the first republic in 1966. The mandate of the UCC was to produce teachers for second cycle schools, tutors for teacher training colleges, administrators and education planners.

The University of Development Studies (UDS) started as an autonomous university in 1992 at Tamale. As its name implies the UDS was planned to be an institution whose programs and graduates would reflect more visibly the developing problems of the three Northern regions as well as Brong-Ahafo. These regions include some of the least developed parts of Ghana.² The land grant college model of the USA must have greatly influenced the planners of that university. With its current student population of less than 300 and without any specific funding scheme in sight, the UDS has a long way to go to fulfil the dream of its promoters as a new kind of institution whose graduates will be less of an urban elite and more actively participating innovators in the rural economy. The administration of the UDS says the following about the mission of the university:

. . . The university is expected to combine academic studies with practical field training, to engage in teaching and research with emphasis on extension work, and to train practitioners to live and work in rural communities. . . . Its principal objective is to . . .

find solutions to the deprivations and environmental problems which characterize northern Ghana in particular and which are found in varying degrees in rural areas throughout the country.

The University College of Winneba (UCEW) was formed in 1994 out of an amalgamation of a number of advanced colleges of education in arts, science, business and management, vocational, technical and agricultural education. In its fourth year of operation, UCEW has a student population of just less than 3000. The mandate of the university, which has a special relationship with UCC, is to produce specialist teachers for basic education through on-campus teaching and distance education.

Arrangements were made at the onset of the universities to ensure that very high academic standards were attained in staff recruitment and in student admission. The University College of the Gold Coast was placed under the academic tutelage of the University of London from 1948 to 1961. The University of Science and Technology (UST) enjoyed a similar relationship with London while the University of Cape Coast (UCC) was linked in a special relationship with the University of Ghana (Legon) from 1962 to 1971. Thus until Legon and UST became full-fledged universities in 1962, teaching programs were approved by the University of London, students wrote examinations vetted by that same university and were awarded degrees of that university. Similarly graduates of the University of Cape Coast were awarded University of Ghana degrees from 1965 to 1971. Once the conditions for achieving high standards of academic excellence were established, the universities were allowed the freedom from government interference to determine what was to be taught and how it was to be taught.

In the early stages of their development, the universities depended substantially on expatriate teachers and researchers. They were provided with attractive conditions of service which included home leave every other year, as well as transfer of savings to their home countries. Ghanaian staff also enjoyed more attractive conditions of service than did persons of similar status in the civil service. Attractive staff development schemes enabled some of the better graduates of the universities to study abroad for research degrees to qualify them for teaching appointments. By the mid-1970s Legon had achieved a large number of staff who were Ghanaians. UST and UCC were following the same route by implementing generous staff development schemes. Most beneficiaries of these schemes promptly returned on completion of their courses abroad. But by the late 1970s the deteriorating economic conditions within Ghana significantly reversed the trend of earlier years to return home. Trained staff were absconding in large numbers to other African countries, especially to Nigeria. Many staff members went on sabbatical leave to these countries and did not return home to their jobs. Expatriate staff were also leaving the country in large numbers; a few British expatriates remained because the government had devised a scheme to supplement their plummeting local salaries in foreign exchange.

CONFRONTING REALITY

The universities sank to their lowest levels in the mid-1980s with respect to funding, staffing, teaching and research support. This situation improved substantially when the government began its economic reform program with the backing of the World Bank and related donor agencies. Recovery to the levels of teaching and research known in the early 1970s has not yet been achieved. About 30 percent of senior members with high postgraduate qualifications

will retire from the university within the next few years. They are not being replaced in the normal way by new recruits.

There is no shortage of ideas about how to address some of these problems. Unfortunately the terminologies that are introduced by the IMF, donor agencies, and the social scientific literature confuse and thereby exacerbate the problems by absorbing local concern in empty verbal disputes. A striking example of this is the effect of using the misnomer 'cost-sharing' of education to refer to tuition and residence fees — when all that is really intended is to ask students to contribute to the costs of their education. Tuition fees are paid to the private preparatory schools in Ghana that are greatly patronized by the elite and by anyone else who can afford them. There is clear evidence from the public sector that overcrowded classes taught by poorly paid teachers cannot produce good results in high schools, hence the overwhelming preference for fee-paying private schools. Many Ghanaian parents are not happy to pay a lot for tuition in universities, since their pre-university expenditures are already very high. With the use of the term 'cost-sharing', even university students who obtain loans to maintain their personal welfare and their pocket money can argue that they are thereby 'sharing the cost' of their education, and so a verbal dispute pre-empts substantive debate over viable means to keep the universities operating, given the constraints placed on government spending by IMF policies.

Another revealing misuse of terminology by the World Bank is the application of '*user fee*' to itemized charges for access to university facilities. The rationale for instituting this term to denote an educational tariff is as follows. In the private sector facilities are purchased at rates which ensure that the desired service will continue to be provided. In the public sector a facility supplied by the state is normally expected to be maintained by the state. If the state finds that it does not have sufficient funds for maintenance, a fee may be charged which is often heavily subsidized. In the new terminology such a fee becomes a 'user fee'. (But then isn't the rent for a house also a user fee?) The problem with this jargon is that it connotes the market exchange relation between a buyer and seller of a consumable resource. And exercising one's merited right to participate in a university education with government subvention is not comparable to exercising one's market power to buy or rent a consumable item of merchandise. With respect to the democratic rights of individual members of a republic, the relation between government and a citizen in the pursuit of education is importantly different from the relation that obtains between a user and a seller or realtor of a capital good or service. The government is not a profit-motivated player in a market producing education which it then rents or leases to the public. So applying the term 'user fee' to denote the charges necessitated by government's inability to provide basic educational instruments like books and lab facilities, is wholly out of place.

A deeper issue is at stake beneath this ill-chosen terminology. The government is in swift process of abandoning its role as custodian of the people's needs and rights, including the right to higher education if the individual can afford it. Instead the government is adopting the posture of an ideal business partner to large multinational corporations. It serves in this capacity as an autocratic executive, definitively interpreting the needs of citizens strictly in terms of the capitalist investor's market interests. As the World Bank published in its 1994 literature concerning the future education policy in Ghana, what big business needs is a "compliant and flexible work force." Towards this end education should be cost-effective. This means it should be streamlined to serve the needs of industry in order to attract foreign investors and to encourage speedy economic development. Since 1983 the government has obliged World Bank directives by drastically reducing its spending on higher education. In a very recent discussion paper, the World Bank urged the government to place a low ceiling on university enrollment. In

response, the government has contracted a committee of experts to establish quantitatively what fraction of the population is optimally exposed to higher education at all. Granted such advice the government is then rationalized to decree, with the backing of expert cost/benefit analysts, how many Ghanaians shall be entitled to have the opportunity to apply to university. But in a democratic republic, higher education surely counts among those social benefits that each individual or family has a right to invest in voluntarily — provided the financial means and intellectual merit are in hand. Presumably a genuine and flourishing democracy reinforces each capable individual's ideal of a successful life. So a democratic state's role is to facilitate the individual's own chosen means of serving his or her nation.

Suppose a state's priorities lie elsewhere — in military defense or export production, for example. Then its government may be incapable of stretching limited resources to sustain opportunities for all its capable citizens desiring to pursue higher education. In this case, explicit limits should be set on the amount that the government is prepared to offer to its universities through subvention. In consequence of its expected shortfall, the government should encourage the institutions to find their own auxiliary sources of funding to meet the public's appropriately growing demand for access to higher education. A government acknowledging the actual limits of its own financial investment in tertiary education is quite different from a government decreeing a stipulated limit to the number of citizens legally prescribed to invest privately in the benefits of a higher education if they 'choose'. The latter policy is totalitarian, insofar as it sidelines the democratic ideal of each individual's having a right to define and pursue their own vision of the good life, constrained only by their personal limitations. In a totalitarian society, this ideal is subordinated to the state's immediate interests by defining the needs of the country and then mandating the roles that individuals must fill in order to meet the state's objectives. The present government is defining 'national development' in terms of the World Bank's directives, which currently entail the suggestion to limit university enrollment to 5,000 per year for the country overall.

The problems outlined briefly above can be overcome. The academic staff of the universities — whose careers are literally being mortgaged because of bad policies and inadequate funding — have a responsibility to join in the search for solutions. They have a responsibility, as men and women of letters, to insist upon terminology that will be productive and illuminating locally. An important lesson from the past half-century is that poor conditions of service will attract neither local nor international university staff. Advanced academic and professional qualifications make university training an international commodity, which can be purchased abroad by countries and university systems that are prepared to pay attractive salaries. Hence the infamous brain-drain escalates. During the first quarter-century of university education in Ghana (1950-1975), graduates who were sent overseas to obtain postgraduate qualifications promptly returned home in large numbers. Foreign academics also flocked into Ghana's universities to take up prestigious short-term and full-time appointments. Good salaries and other attractive conditions of academic service made this possible. Those former graduates of the universities who did not respond to the calls to return home were able to obtain positions at first rate universities outside Ghana. Their careers are evidence that Ghanaians with the appropriate qualifications can market their skills worldwide, despite the covert and overt racial prejudices that exist in the academic world and in professional arenas abroad. Many of these individuals have achieved exalted positions outside. They have not suffered the intellectual stagnation nor the isolation of their counterparts at home, who are obliged to function as intellectuals with little

or no access to standard equipment nor to the latest contemporary ideas published even as near to home as Nigeria.

OPTIONS FOR CHANGE: IMPROVING CONDITIONS FOR SERVICE FOR STAFF

How should policy makers respond to these experiences of the past half century? What are the prospects for improved conditions of service for university teachers? What are the prerequisites for such improvements? Is there any hope that policy makers will suddenly change their perception of the social, cultural and economic value of the university and thus be motivated to provide lecturers with livable wages?³ A recent salary-review report that was prepared for the government is claimed to have considerably devalued the university lecturer. The economists and statisticians should appraise this evaluation report and illuminate the job definitions used in it, on the basis of which recommendations to government were made. The National Council for Tertiary Education has set up a Reform Committee to find ways of correcting the damage done by the abrupt fulfillment of IMF demands to revamp the educational system in 1992 without supplementary funding.⁴ This committee could likewise set up permanent machinery to review the pay structure in the universities. Perhaps university staff should initiate such an apparatus.

A recent study convinced this writer that in spite of much solo research contracts and consultancy contact between individual academics and Ghana's public and private sector organizations, the university is perceived as largely a teaching institution whose research findings are of marginal interest and negligible value for the economy. Much needs to be done to change this distorted, minimizing image of the university so that its third but most important role — service or 'extension' — can be the key that opens the university as a resource for policy makers. Direct contracts with university departments would allow faculty to undertake income-generating government projects. One cannot fail to note that a private university in the USA like Stanford or John Hopkins is able to receive so much in the form of contracts from the government and private firms, that tuition makes up only 16 percent of its income. A public university like Legon could do just as well in Ghana.

NOTES

1. It is extraordinary that in 1995 during the longest faculty strike in the history of Ghana's universities (which ended in faculty unanimously voting to return to post without any of their labor negotiation terms fulfilled), Ghana's president received two honorary doctorates praising his progressive administration in USA, one from Lincoln College in Pennsylvania and the other from Medgar Evers College of the City University of New York.

2. For a detailed account of the complex problems specific to the northern region, see J. Songsore, "Population growth and ecological degradation in Northern Ghana: The Complex Reality," in this volume.

3. In 1994, the annual salary of a university vice-chancellor was equivalent to the salary of a promoted cleaner or driver at other parastatal organizations run on government subvention (e.g. the Bank of Ghana). Currently, a newly graduated, BA-holding teller-trainee in a foreign-based bank with branches in Accra begins his job with a wage roughly twice what his professor with a doctorate is making, although the professor will have served with promotions in the university system for over a decade.

4. See "Introduction" to this volume, pp. 14-15.

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