
Land-Use Literacy for Sustainable Food Production in Africa

Acceptance speech for
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For Leadership for the
Sustainable End of Hunger"

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LAND-USE LITERACY FOR SUSTAINABLE FOOD PRODUCTION IN AFRICA

The great African drought and famine of 1983–1986 brought about a profound melancholy of unprecedented depth across the length and breadth of Africa. In the disaster countries, such as Ethiopia, about 1000 children were dying each day as a result of hunger, malnutrition and related afflictions; over the region as a whole, about 100 million people came under the pall of chronic hunger and malnutrition; and at least 10 million new migrants were created by this disaster (Independent Commission on International Humanitarian Issues, 1985). This hopeless situation was made more wretched by the mounting burden of external debt in Africa.

Between 1970 and 1980, the continent's external debt mounted at the fast rate of more than 21% a year. Some African countries increased their external debt ten-fold or more during this decade, and by the end of 1984, Africa's debt was some 215% of exports of goods and services. These statistics were only a confirmation of what was already depressingly evident in most sectors of the economic life of the continent. Annual grain production in the 24 countries most seriously hit by drought had been decreasing by 2% a year on average since 1970, much of the continent's industrial capacity stood idle, many institutions were deteriorating in physical capacity and in technical and financial performance, and Africa began to look and feel like an unviable and problem case.

In these gloomy and disquieting circumstances, it is not surprising then to ask the question, as the World Bank has done, "Is it possible to look with hope toward the future?" (1984). One can be defiant, as the Dutch thinker F. Crompouth has expressed so movingly and poetically:

I shall not believe
That hunger and war are inevitable
And peace beyond the horizon

But believe
In the small deed
In seemingly powerless love
In peace on earth.

Or one can go deliberately further and invent a more hopeful future in Africa.

INVENTING A NEW FUTURE FOR AFRICA

In his address to the 1986 Special Session of the United Nations General Assembly on the Critical Economic Situation in Africa, His Excellency Abdou Diouf, President of Senegal and former Chairman of the Organization of African Unity (OAU), opened his presentation of the OAU case for assistance by the international community with these words: "The Assembly will no doubt be wondering what kind of language I shall be speaking here. Well, I can answer that question simply and clearly: I shall endeavour to speak the language of hope. . . ." In introducing one of their books recently, *The Hunger Project* (1986) enunciated the same hope: "In the final analysis, this book is not about hunger, but about *ending* hunger. As such, it is about an opportunity."

That opportunity for the sustainable end of hunger in Africa should comprise at least three interrelated elements. First, there is the geopolitical vision that should provide the context for and the environment in which the goals of the society can be designed by consent, and their realization can be stitched together on a continuing basis. Second, there must be an explicit national policy, with a clearly articulated programme of implementation, which places science and technology at the central focus to generate new practices that will provide affordable and fulfilling food to the most vulnerable segments of our people, the urban poor and the resource-poor rural communities. And, third, there is the compelling logic of Africa's circumstances that the long-range solution to Africa's crisis can come only from within Africa itself, but that this internal resolve

should be complemented by the understanding that if the trauma of the 1983–1986 African drought and famine has taught us a lesson, it is that the world has become a global village, and that complementarity and solidarity have become the new order of the day.

One of the most encouraging messages that emanated from the 21st Summit of the OAU Heads of State and Government, which met in Addis Ababa in July 1985, was the no-nonsense statement in the Declaration at the end of the meeting regarding *Africa's Priority Programme for Economic Recovery* (OAU, 1985):

We reaffirm that the development of our continent is the primary responsibility of our Governments and peoples. We are, therefore, determined to take concrete actions and measures individually and collectively for the achievements of the economic development of our continent in unity and solidarity of African peoples and Member States.

This reaffirmation has to be seen in the conviction of the OAU Summit that agriculture should return to its position as the primary sector for production, and therefore become the top priority for Africa. In this context, the Heads of State and Government pledged to devote 20%–25% of public investment to the rehabilitation of the agricultural sector within the remaining time of this decade (OAU, 1985).

Such African political will, and its expression in a new initiative in agricultural production, has to be seen in the context of the global village, as expressed earlier this year by Brundtland's World Commission on Environment and Development, and as stated so succinctly in the opening page of the Commission's report, *Our Common Future* (1987):

Our report . . . is not a prediction of ever increasing environmental decay, poverty, and hardship in an ever more polluted world among ever decreasing resources. We see instead the possibility for a new era

of economic growth, one that must be based on policies that sustain and expand the environmental resource base. . . . But the Commission's hope for the future is conditional on decisive political action now to begin managing environmental resources to ensure both sustainable human progress and human survival.

The central theme of Brundtland's Commission is "sustainable development": the challenge being that of increasing food production while retaining the essential ecological integrity of agricultural production systems, of not confusing present affluence among some industrialized countries with the fact that their development may not be sustainable in the long run. For instance, the conventional high-input, high-energy farming technologies being practised there are both uneconomic and unsustainable. Indeed, we should be striving to develop new technologies that provide opportunities for increasing productivity, including that of food, while reducing the increasing pressure to which our resources are now being subjected; and that we should accomplish this goal within the context of societal needs and aspirations.

The world's potentially arable land area covers approximately 2,500 million hectares, of which about 1,500 million are under cultivation. The rest, mostly to be found in Latin America and tropical Africa, are still virgin or only sparsely populated, and about 4–5 million hectares of this land on average are brought into cultivation every year. One may be tempted to consider Africa as fortunate in having this tremendous resource still lying idle. Indeed, we could agree with this perception right now except that the vast human potential in Africa is not being utilized to anything approaching an optimum level, because of (a) ignoring almost entirely the scientific talent that is struggling to rise above the policy neglect and the abysmally low fiscal and institutional support the small scientific community has had to contend with during this century so far, and

(b) the non-utilization of the great trading traditions of the rural farming communities by by-passing their competitive and flexible marketing practices.

It is a melancholy fact that scientific talent, which should spearhead the greening of Africa and prime the science-driven development of this continent, is little recognized in a region of the world which so desperately needs it. "The Declaration on the Economic Situation in Africa", and the accompanying "Resolution on the African Economic Situation", to be found in the OAU's 1985 trouble-shooting policy document *Africa's Priority Programme for Economic Recovery* (1985), does not contain one word about science, nor about the mobilization of Africa's scientific talent to lead the technological war in resolving the continent's crisis. The body of the document itself, however, contains some tepid recommendations that seem merely to emphasize the modern neglect of Africa's scientific brainpower in wrestling with Africa's inadequate knowledge base in the face of the continent's horrendous technological problems. The document makes a statement on structural matters (for instance, the need to rehabilitate and strengthen agricultural institutions and infrastructure) without ever mentioning agricultural research and development, and is concerned with matters of technology transfer (for instance, by exhorting Member States to promote "the translation of research and development results into commercial operations") without dealing with the reality, which is that the bulk of the new technologies required for sustainable agricultural production, let alone the problems raised by the fragility of African tropical soils, needs sustained, long-term, fundamental research effort to generate new information that might lead to the development of innovative agricultural technologies not yet on the shelf ready for transfer by anybody.

Africa's decision-makers will have to take a bold and unusual step, but one supported by the history of vigorous economies the world over: that of giving a high profile to the development

of indigenous scientific capacity in Africa in order to assure sustainable development of the continent, and once developed, to create and nurture an enabling environment for this trained talent to flower and transform the course and content of Africa's development. The making and implementing of such a profound decision will be neither easy nor painless: it will mean that the political and government leadership will need to share their responsibilities for national development with their scientific community; it will mean that once scientific goals within overall national development objectives have been jointly agreed upon, the scientific community must be given the resources to reach them; it will imply that, in order to create the necessary environment for scientific discovery and technological innovation, scientists must be unfettered in their movement and communication, as new scientific progress can grow only upon the peaks of previous scientific and technological advances made by the worldwide scientific community; and it will require that the geopolitical leadership recognize the pivotal role of the scientists by providing just awards and rewards to those most gifted among them. As Dennis Gabor said a quarter of a century ago in his thoughtful book *Inventing the Future* (1963):

Exceptionally gifted people will always be able to see more than others; science may become their ally in making others share in their visions. . . . The future cannot be predicted, but futures can be invented. It was man's ability to invent which has made human society what it is.

We need to invent a more hopeful, productive future in Africa, and the geopolitical leadership and inventive scientific leadership have a mutuality to play out in the realization of this goal.

In the field of agricultural production, the newly invented future must embrace the resource-poor rural community, which comprises 70%–80% of the farming community in Africa.

FUTURE OF THE RURAL POOR

Land in Africa most suitable for agriculture is already in production. That still not in production is too fragile for sustainable agriculture using the kind of technological tools we presently possess. It will therefore require substantial research and development effort if this fragile land found in uncertain, rain-fed agro-ecologies is to sustain high-level agricultural production. In this technology-generating process, the resource-poor farmer, who more often than not is a woman, must form part of the team designing the research agenda.

The link between researchers and farmers is vital. Only when new technologies for sustainable agricultural production are adopted by the resource-poor farming households on the continent will the action affirm that the research and development effort has been worthwhile. The crucial importance of the resource-poor farmer playing a role in fashioning the research agenda is that the researcher must become aware early in his endeavour of the critical relevance of at least three elements necessary for the creation of scientifically effective and socially implementable technology: that the technology is ecologically and economically sustainable, that it answers to the resource poverty of the majority of the clientele and that it addresses the risk-aversion of most of those farming households. This is a formidable array of issues to be kept in mind by the scientist—and he must, if he is to usher in a new era of food self-sufficiency in Africa. It is almost certain that the liberating impact of the new technologies that are likely to result from such a scientist-farmer partnership will pay for this long-term investment in research and development—provided that the state machinery lifts its heavy hand from the food marketing controls it has instituted and progressively tightened over the years.

Entrepreneurial and trading talents in food staples are widespread throughout Africa; and it should be that as we create an environment for scientific invention and innovation in sustainable agriculture on this continent, we should also be creating a

similar enabling environment for entrepreneurial trading talent as well as liberating the marketing skills of the rural people. Peter Hopcraft, of the World Bank, has stated it most succinctly (1987):

Africa has long traditions of open, competitive marketing, with flexible prices that vary predictably with the scarcity of the commodity, its quality, and with transport and storage costs. These marketing systems are efficient, responsive, and self-financing, and are ideally suited to dispersed smallholder economies with variable rainfall and changing market conditions. . . . Entrepreneurial and trading skills in this area are legendary and are typically acquired in the market place rather than by formal education . . . and barriers to entry into the trade are generally not tolerated.

Yet instead of building upon these traditions and the rural people's entrepreneurial talents, our governments, colonial as well as independent, have almost perversely erected rigid superstructures of fixed official prices, monopolistic parastatal marketing boards and restrictive controls that have not had the capacity to respond and adjust to the changing market conditions in a timely fashion. Thankfully, in the last two years or so we have seen these rigidities begin to thaw: in Côte d'Ivoire, in Zimbabwe, in Kenya, a new spirit of a more liberal food marketing system is beginning to emerge. We hope it will grow into a wind of change.

PROSPECT

Africa has been analysing itself over the last three decades to reassure itself that most of it is indeed independent, and it has been venturing rather diffidently during the last few years of this decade outside its colonial heritage of development strategy and trading practices. We earnestly hope that these tentative steps will grow into confident strides into the path of science at its excellent best and technology at its most relevant.

The path is long, and the obstructions to progress severe. But with the geopolitical climate right and enabling, Africa will have the inner strength with which to put to its own use the vast resources with which it has been endowed. We can get encouragement from the words delivered by His Majesty King Moshoeshoe II (1987) at the opening of a Dåg Håmmårksjæld Foundation-sponsored seminar on "Another Development for SADCC Countries", held in November 1985 at the Royal Palace in Maseru, Lesotho. He said, in regard to new research and joint ventures in development activities in Africa:

We shall need the political will to transform into action and reality all these possibilities and the latent potential that we know are there. The South must reach the point of development where it can, first of all, satisfy the needs of its own people, and then achieve a surplus in certain sections for trade relations with the industrialized nations; and where it can get together to press for realistic prices for its surpluses and those resources needed by the industrialized world. We shall, of course, need the help and cooperation of the industrialized world to achieve this, but we must seek the kind of help that in a sense undermines itself, and cancels out its need in the shortest time possible—not the kind that only serves to perpetuate itself and increase our dependence.

We have asked for an opportunity to be self-sufficient in food and to be competitive in doing so. Let us all liberate and bend our various talents to this challenging task.

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On 23 July 1987 Professor Odhiambo, together with President Abdou Diouf, of Senegal, was awarded the First Annual Africa Prize for Leadership for the Sustainable End of Hunger.

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