
Review and Prospect: Where Do We Go From Here?

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Review and prospect : where do we go from here?

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I cannot presume, in the time at my disposal, to sum up so diverse and excellent a series of addresses as we have heard during these two days. I propose instead to review what seem to me to be the most significant issues they raise affecting action for the future of the arid regions, with particular reference to those which form parts of the less-developed countries of the world.

Development and governments

To develop resources is an exclusive prerogative of sovereign, independent governments. Other agencies and individuals have authority to develop resources only if governments permit them so to do. Though they may not always be fully effective in practice, the declared policies of most, if not all, governments, particularly in the less-developed countries which contain many of the arid lands we have been discussing, commit them to direct the development of resources to the interest of the nation as a whole. Now in the last analysis, development is about people; and most of the people of developing countries are members of societies or communities in which agriculture and stock-raising are the chief, and often the only, processes which use resources productively. My first conclusion, therefore, is that resource development in arid lands is an integral part of the policy and action of governments for agricultural and rural development, and that it is very far from an exclusively academic, ecological or environmental preserve.

Very few of us here have been directly involved as citizens in the development of arid regions. The nearest most of us have got to the action is in the rôles of servants and advisers of governments, or of the national and international agencies that cooperate with them. Others of us are research workers, teachers and communicators who increase and transmit knowledge and understanding. But few of us have borne the heat and burdens of drought and disaster on our own backs. For me, that is a particularly humbling thought.

Population

Some of us are deeply and sincerely concerned with the growth of population in arid and other developing regions of other people's countries. To a large extent it is inevitable that populations should grow at an increasing rate in the developing world at the present time. As preventive and curative medicine become more effective and as food supplies per head increase, or at least do not decrease (which in spite of well-publicized droughts and disasters, is what has happened, by and large, for 30 years past) more babies survive, average expectations of life become greater and the growth rates of populations increase – even if birth rates fall, as they are tending to do in many of the poorer countries. These life-increasing processes are regarded by most human beings as morally good, and they are not affected by family limitation programmes – of which let me hasten to say, I am a long-term financially committed supporter. The main lesson I draw from these considerations is that while many of us will wish to do all we can to help those governments that wish to do so to decrease birth rates, by whatever means

[173]

their people can accept and afford, we must also help them to prepare for continuing population growth, for perhaps a century to come. A population policy, still less a family limitation policy cannot serve as a cheap substitute for a viable national (and especially agricultural and rural) development policy.

A subsidiary but nevertheless salutary conclusion is that we should think more carefully about how far a world food or protein shortage, which would be expected to kill many babies and young children, is intellectually compatible with a world population 'explosion' which develops because more of these same babies and young children are surviving. There must be a limit to the extent to which we can have it both ways.

Socio-economic factors in life systems

We have, as is usual in such discussions as these, met our old friends the 'socio-economic factors'. A distinguished but orthodox Fellow of the Society once described the early Unitarian Church as a feather bed for a falling Christian: 'socio-economic factors' have all too often provided a feather bed for a falling agronomist. When his prized new variety, or his 'package of improved practices', the products of devoted, even impeccable, investigation, fail to win instant acceptance, his first response is usually to blame the extension service; and when that in its turn has to be exonerated, he turns to socio-economic factors, which he may conceive as having to do with marriage customs, fertility rites, totems, taboos, and such-like apparently, non-agricultural matters. In this way he dexterously puts the problem not only off his personal plate but also beyond the reach of objective study, for lack of suitably equipped investigators.

Fortunately, during the last 35 years, such investigators have begun to join the action. From them we have learnt that many of the socio-economic relations of traditional agriculture are important for us because they affect decisions about the volume and distribution of scarce resources of land, labour, time and capital between different and competing sectors of the life-systems of rural societies.

The key word is 'life-systems'. The traditional farmer or herder of stock is not like a Berkshire farmer, who can devote virtually all his resources to his farm business: he and his family have to do many other things in order to live and survive, and they have to share out their resources accordingly.

Instability and change in arid regions

The next point which seems to me to be important for the future is the inherent instability of systems of resource-use in arid regions. They are unstable because the supply of the limiting resource, water, is distributed unevenly and unpredictably in both space and time. This sets limits to the extent to which life and human activity can be stabilized, unless resources can be stored or supplemented, or unless people, or resources, or both, can move or be moved, at the right time and speed, from place to place.

Indeed, in arid regions, change is characteristic of both the situation and of the remedies for it: little or nothing can be stable or sustained. How, in such situations, can one define and measure the 'carrying capacity' of the environment? In these circumstances, there are and have been continuous and substantial changes in the type and productivity of vegetation; and in many cases these changes, reinforced by inappropriate methods of resource-use, have made ecosystems less productive.

To add from outside to the resources of the life-system in an unstable environment often seems to make matters worse. A society of nomads, who have, apparently for generations, managed

grass and water along their routes so that they and their resources survive, will apparently grossly mismanage and degrade the pasture within kilometres of a new borehole provided by government. Why? Is this a special case of the general one, that in these circumstances the animals are privately owned while the resource is publicly owned? If so, why did this problem not present itself in the bad old days?

Productive and unproductive change

Not all change, however, makes the environment less productive: there are old fixed dunes, now carrying settled agriculture, hundreds of kilometres south of the true desert in Kordofan; annual crops on land cleared from *Acacia* woodland with tall grass on the Sudan clay plains can be managed so as to use water more productively than the wild vegetation; net production of cropland and pasture in England is generally far greater than that of the deciduous broad leaved woodland it has replaced. Change processes are of many sorts, and not all are necessarily deleterious. We may indeed expect that during the more humid period which is now returning to the Sahel, and which will probably continue, with ups and downs, for ten or more years, the pressure on land in the broad ecotone between the desert and the sown will decrease, and that plant cover and productivity will improve, except where truly irreversible damage has been done.

New technology

To be effective in lessening general poverty, agricultural and rural development, in less – as well as more-arid areas, must embrace very large numbers of people. The average improvement in the productive use of resources need not be spectacularly large; but even modest improvements are not likely to be realized unless they are part of a general and complex set of changes extending far beyond the metaphorical farm gate. Physical infrastructure, technical installations, commercial input and output channels (whether publicly or privately operated is less important than that they work) including marketing, storage, transport and price management, are all necessary parts of the deal. Through them, the agricultural and the non-agricultural parts of the society, and of the economy, are linked and indeed to an extent polarized: exchange between them benefits both. All this rests on investment decisions by governments and their advisers, who may not be particularly willing to make major investments in the least promising or the least reliable areas.

Technical means of using resources in arid lands more productively than now can surely be found, but without the rest of the complex set of changes to which I have just referred, not many farmers will be able to adopt them. Moreover, to be accepted, the new means must be within the technical grasp of rural people, they must lessen their felt difficulties, and they must do this at a price they can afford without undue risk. Often, the limiting factor is not technical at all – in the sixties a new all-weather road between Kano and Zaria in Nigeria led to great increases in the production of sugar cane and vegetables for sale, without benefit of research, education or extension.

Ecological complementarity and forecasting

In many instances, particularly in West Africa, arid regions are not far removed from more favoured ones. The traditional systems of resource use are based on movement, and on exploiting ecological complementarity between stock- and grain-producing regions. Indeed it must seldom be possible for a Sahelian state to act within its own boundaries against fluctuations in climate: to do this successfully it will need appropriate complementary relations with wetter

regions. It is when these relations are inadequate or impossible (for political or administrative reasons) that even a moderate drought can lead to a large-scale disaster.

Forecasting, whether of an impending spell of dry years or of an impending dry season, appears to be sufficiently reliable to offer advance warning to governments so that they can look to their ecological complementarities – and to the storage, transport and distribution systems necessary to realize them in time.

Prospects of a better age

Perhaps we should next remember that in the arid lands people are changing also. The transistor radio brings tidings of the wider world to the most remote encampments and hamlets, and tells their inhabitants they that are not obliged for ever to continue in the old ways. The Fulani are settling in the high pastures of West-Central Cameroon; the young and the educated are leaving the harsh environments, particularly where oil and other minerals, in which so many arid lands are rich, are changing the patterns of economic activity and opening up new prospects. We may expect this sort of movement to continue and to accelerate – as it has done from marginal lands in many countries in the past. As development proceeds, the ordinary people of the arid lands, for good or ill, will take their own decisions about their future.

In the two days of this meeting many people with diverse interests and experiences have shared their knowledge, their ideas and their hopes. We have met against the background of the widespread droughts of 1972–3, but at a time when the immediate urgencies are less, to consider the possibilities for the future, when drought returns again, as it surely will, to the Sahel and other arid lands. I believe we now share a common conviction that much can be done, and a determination to help to do it. For this not only we ourselves, but the millions in the arid lands on whom the main burden will lie, will join in thanking this Society, our generous host, for making this notable occasion possible.