Reducing vulnerability to drought: The case of Seguenega

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Africare

A decade ago, the Sahel region was reeling from the effects of massive drought. Hundreds of thousands of people perished on the dessicated land but the crisis abated as the rains returned. Ten years later, the scourge of drought has returned to the Sahelian zone. Today, as before, the effects of drought are devastating. Nevertheless, there are some positive elements to the story of the current drought in the Sahel. For while the current drought has indeed had a severe impact one can point to cases where its effects have been mitigated by the intervention of long-range development planning. The case we examine below illustrates how vulnerability to drought can be reduced.

THE SEGUENEGA CASE

In the wake of the Sahelian drought of the early 1970s, Africare, which had been active in the drought relief effort, initiated a series of small-scale irrigated vegetable gardening projects in several villages in the Seguenega region of Burkina Faso (formerly Upper Volta). Seguenega, which is located in the north central region of Burkina Faso, has about 125,000 inhabitants and is the country's most densely populated region, with 70 persons per square kilometer.

The earliest and most successful project was initiated at Ramsa under a Lilly Foundation grant in 1975 and the concept soon was expanded to the neighboring villages of Goubre and Mogom. These projects emphasized community involvement in digging wells, planting and cultivating the gardens, and reforestation. By 1980, eight hectares of vegetable garden were under cultivation enabling 300 families in these villages to enjoy improved nutritional benefits from the diversification of their diet, especially during the dry season. In addition, substantial income was generated through the sale of surpluses, enabling many farmers to more than double their normal income.

Growing out of the success of these pilot projects, Africare received a $5.9 million grant from the U.S. Agency for International Development (AID), to support the implementation of the Seguenega Integrated Rural Development Project (SIRD). This ambitious, five-year project had several long-range goals and aimed to:

- increase capacity of the Seguenega sector to deliver social services;
- increase agricultural and livestock production;
- improve planning and management capacities of government agencies at all levels;
- increase participation of rural people in project planning, management and implementation.

Africare has provided technical assistance to the Yatenga Regional Development Organization (ORD) which is the lead implementation agency. Activities undertaken in this project are many and have included: village co-operative development, provision of health services and training, young farmer training, adult literacy programs, credit programs, vegetable gardening, rice cultivation, livestock and poultry production, well construction, road development, reforestation and management training. This project is nearing completion after having been extended for an additional year.

As with any project of this size and scope, the different components of the SIRD have met with varying levels of success. In general, however, the results of the project have been positive. The feasibility of dry season cultivation has been demonstrated, income levels of participating families have improved, and the capacity of local governmental agencies to provide services has been strengthened. But perhaps the most telling outcome of this project can be seen in light of the impact of the current drought.

IMPACT OF THE CURRENT DROUGHT ON SEGUENEGA

Burkina Faso is one of the hardest hit of thirty African countries which have been most seriously affected by the current drought. The most severely affected region of the country is Yatenga. Some areas in Seguenega appear to be holding their production and coping with the drought. This appears to be true even after considering traditional seasonal migration patterns. Many displaced persons have descended into the vegetable producing areas, some of which have managed to continue cultivation. Notable in this regard is Ramsa and other villages closer to the now dry White Volta riverbed, where the water table is still accessible. The existence of SIRD-financed infrastructure, including wells, improved roads, and warehouses (which can be used for storage of emergency food aid as well as regular harvests), has reduced the vulnerability of this area to the drought.

In spite of these efforts general crop production has been seriously inhibited by the drought. Harvest yields of traditional rain fed grain crops have fallen precipitously. Thus, despite the success of the SIRD's production of supplemental foods (staple crop production was not

addressed by SIRD), the people in this region, as in other parts of Burkina Faso, now require substantial amounts of emergency food assistance. To meet these needs, Africare, working with other voluntary agencies and the government, is distributing grain in several food for work programs in Seguenega. These AID-funded projects emphasize continued improvements on basic infrastructure, and should further encourage the population to stay in the rural areas rather than to descend into the major urban centers.

While there is little doubt that drought has adversely affected several components of the SIRD project — notably rice cultivation, reforestation and, in some areas, vegetable production — other components appear to be weathering the drought much better. The capacity of the government to respond to this crisis appears to have been strengthened — perhaps in part because of SIRD activities which have stressed local management and initiative. The evidence suggests that the management and service delivery capacity of the Yatenga ORD in particular has been improved substantially. In addition, the basic infrastructure continues to be in place and to facilitate drought response. Most importantly, although the people are facing hard times in Seguenega, drought-related deaths are not as high there as they have been elsewhere.

This situation contrasts starkly to the case of Ethiopia where long-term development and infrastructural needs have been largely ignored, where hundreds of thousands of people have perished and where millions have been displaced. It is no surprise that the story in Ethiopia dominates the headlines. Commentators are quick to bemoan the sorry state of development in the hardest drought hit areas there. But the Ethiopian story illustrates only one side of the coin which is what happens when longer term development is ignored. The Seguenega case, which has received comparatively less attention, illustrates the more positive side of the coin. It shows what can happen when infrastructural and long-term development needs are addressed. Clearly, the Burkina Faso and Ethiopia cases are not completely analogous. Burkina Faso, unlike Ethiopia, does not suffer from a debilitating civil war which complicates relief and development efforts. Nevertheless, it seems fair to conclude from these cases that the capacity to cope with the drought is strengthened where development needs are squarely addressed, and diminished where they are not.

CONCLUSION

Severe drought can overtake even the best laid plans of development experts. Certainly prolonged drought creates substantial hardship. But hardship is one thing and disaster is another. Seguenega today faces its most severe test since the killer drought of the early 1970s. The SIRD, itself, has been adversely affected, and there is a growing need for emergency assistance. There is hardship, but not disaster — at least not yet. Why? One of the reasons is that in the ten years since the last drought, careful attention has been paid to the development needs of the area. External resources have been applied, local infrastructure has been improved, and the administrative capacity of the host government strengthened. The lesson of Seguenega shows that the effects of drought can be mitigated under these circumstances.

Although it is too early to tell conclusively, it also seems probable that the recuperation period should be much shorter once the current drought has abated. Seguenega should be in a position to bounce back much more quickly than other regions where attention to development has been much less systematic.

There may be little that can be done to prevent droughts in Africa, but there is much that can be done to make countries less vulnerable to the worst effect of drought. We must be mindful to meet emergency food needs where they arise, but we must be equally mindful not to allow emergency assistance of this sort to reduce the long-term capacity of African countries to produce their own food. Careful attention also is required to soil conservation, reforestation and suitable methods of irrigation. Infrastructural assistance of this nature promotes long-term development and mitigates the impact of drought.

In Seguenega there are still patches of green thanks to strategically placed wells. Food is still grown in villages like Ramsa, although it is hardly enough to meet the needs of the growing numbers of displaced persons who have flocked into these areas. But the story might have been much different had not resources been provided to find rural development project. All who are interested in Africa's future should bear this in mind as they contemplate the images of famine from Ethiopia and other areas.

Development: An AFSC perspective

Corinne Johnson

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DEVELOPMENT — A PROCESS THAT REDUCES VULNERABILITY

Question: What is development, and what does AFSC try to do about it in its work outside the United States?

Answers: "Development is a process through which people's vulnerability (economic, social, political, personal) is reduced" — a definition that emerged during the 1984 Institute on Disasters and Development sponsored by Harvard University's School of Education, in which Corinne Johnson participated.

AFSC tries to promote that process with communities in circumstances of need and deprivation, in hostile and friendly governmental environments, in situations of disaster and of optimism for growth, among urban and rural populations, almost always with a concern for the community collectively rather than any single person.

Such a definition avoids the largely vain attempts to assert that development will "trickle down" if the wealthy, capital-intensive sector is aided; or attempts to measure development through per capita income figures (which though they may rise, may mask real deprivation at the base of the scale); or even quality of life measures, which do take into account rates of mortality, health, literacy, etc., but do so necessarily on an aggregated basis.

The definition that cites reduced vulnerability of people puts the focus on people — on whatever community one is describing or working with — and on their empowerment to deal with their own problems and needs, now and in the future. It puts the helping agent in her/his proper place as well: subsidiary to the community concerned and obliged to work in such a way as to make her or himself less and less necessary or important.

Are there examples of development projects which reflect this definition of development as the reduction of people's vulnerability, and what are the difficulties and dilemmas that such development work faces? I will consider one program from each of AFSC's major geographical areas of work — Latin America, Asia, Middle East, Africa — to illustrate the answers to this question, because in each place where we work the response depends for its shape upon local circumstances and resources.

FIRST, LATIN AMERICA: SANTIAGO, CHILE

As you know, Chile's elected government was overthrown in 1973 by a military coup, in which General Augusto Pinochet seized power. The general is still in power, and over the last eleven years much of Chile's development — its programs and structures erected over many years to reduce people's vulnerability — has been discarded. Agricultural reforms, social security, health services, education, major industry have all been virtually eliminated or "privatized." Human rights and employment protections have been removed, the value of minimum wages vastly reduced, unions broken, and local industry weakened by policies that favor speculators and outside investors.

In these circumstances, the gap between rich and poor has widened. In some communities there is more than 60% unemployment, and social disintegration has resulted from the pressures: family break-up, alcoholism, prostitution, delinquency and violence. People sniff glue or even the smoke of burning tires to cut the pangs of hunger.

In several *poblaciones*, or poor communities, an AFSC health education program for pregnant and nursing women reaches out into the community.

Starting with classes given by a professional nurse/midwife, the program has by now trained many women residents as monitors or teachers. These women in turn conduct classes for their neighbors, classes that help them understand their own bodies, the needs of the unborn and newborn child, their own nutritional needs as pregnant women or nursing mothers, and the best use of their very limited resources for the nutrition of their families. From these classes, new *monitores* are trained, and so on.

It provides useful information of health and nutrition, but the program does more. It develops the women's capacity for leadership, it promotes cohesion and mutual support in a society that is designed to atomize communities and make people worry only about themselves; and it strengthens the community against the violence and violations of the system.

Such work in Chile is not easy; it requires courage and discretion. The military government is rough, and it does not want to see people empowered or enjoying a sense of their rights and dignity. The government fears the growth of community. So, as the program helps women and their families reduce their vulnerability to threats to health. it strives also to create understanding of the importance of community and solidarity against repression. The dilemma is clear — as people are strengthened in one arena, health and community, are they made more vulnerable in another, the political? The program tries to address this totality and to avoid decisions that expose people beyond the exposure they themselves have chosen.

SECOND, ASIA: KAMPUCHEA (OR CAMBODIA)

AFSC responded to the needs of Kampucheans after the defeat of Pol Pot in 1979 with immediate food aid. AFSC has supported work with the disabled, with orphanages, with education, with water systems. But the principal focus

of our work has been on agriculture, especially large animal health and animal traction (there are very few tractors and very little fuel in Kampuchea). The intent, of course, is to increase agricultural production through assistance to the capacity of farmers to cultivate larger areas — to reduce people's vulnerability to food shortages. Presently plowing is done by *pairs* of bullocks, with a yoke across their necks that provides the pull for the plow. This yoke is extremely inefficient in transmitting the power of the animals to the pulling of the plow

The AFSC veterinarian is working with others to design a sort of collar, made of wood and leather, that will permit the animal to pull the plow with the pressure on its shoulders rather than just on its neck. Such a harness would be much more efficient and would mean that a bullock could plow singly rather than necessarily as one of a pair. It would increase plowing capacity perhaps 50% from the same number of animals. Since draft animals are still relatively few because of losses during and since the Pol Pot years, such a development, widely applied, could mean much greater self-sufficiency in food for Kampuchea and much reduced vulnerability to future natural disasters that affect food growing capacity. Kampuchea is a socialist state with central planning of development and other activities. A private voluntary organization, such as AFSC, has no analogue in Kampuchea, therefore no easy fit with the structure of the society. Permissions to travel, for visas for expatriate staff, to undertake certain projects, are often difficult to obtain or slow in coming as different ministries may have different priorities and responsibilities.

But, in the case of Kampuchea (and Vietnam, North Korea and Cuba) the U.S. government intervenes in the development process also. The State Department applies the "Trading with the Enemy Act" to these countries and interprets and administers that Act in such a way as to prohibit development assistance from U.S. sources and limit even emergency assistance to Kampuchea. All shipments to or purchases for work in Kampuchea must be licensed. In practice licenses are granted only for what the State Department deems to be emergency, not development, assistance.

For development activity, we have had to rely on funds from non-U.S. sources, handled by non-U.S. citizens, for purchases made outside the United States. It is a credit to the donors and reflects a certain ingenuity all around that such work does continue, to reduce the vulnerability of Kampucheans to future disasters and pressures on them. (It is a discredit to the United States government that it continues the conflict of the war in Indochina in such a way as to attempt to maintain that vulnerability.)

THIRD, IN THE MIDDLE EAST: THE GAZA STRIP, ECONOMIC DEVELOPMENT

The Gaza strip, now occupied by Israel, has been a focus of AFSC concern since 1948 when we first responded to a UN request to assist with refugee relief. Gaza strip residents traditionally pursued agriculture (especially citrus fruits) and fishing which formed their economic base. Tightening Israeli restrictions on planting, fishing grounds, land and water use, and marketing have severely restricted these activities. Much of the economy of Gaza now depends upon minimal wages from unskilled labor in Israel proper, with resulting increased dependency for Gaza residents and increased vulnerability to actions of the Israeli economy and state.

In this context, AFSC is supporting a detailed study of the economy in Gaza, to identify human resources, material resources, market potential, and legal and other openings and restraints for new income-generating activities. A research and management group, based in the West Bank and carrying out a similar study there, is performing the research.

It appears that what will be necessary will be to identify high value-added manufacturing processes that will permit a reasonable return to workers for their labor but will also require fairly sophisticated technology and training. Low skill or artisan activities cannot generate sufficient income to sustain those involved. Legal limitations through the Occupation make the prospect difficult, especially because the clear intent of the study is to discover enterprises that can represent real community development — and reduce community vulnerability to outside forces, one of which is the Occupation itself.

This effort is therefore a highly risky one, but one that could be very important for Gaza residents and refugees who see no early prospect of a political change for the better.

FOURTH AND FINALLY, AFRICA: MALI GOUNDAM

(a town in the sixth region, on the edge of the Sahara, two hours by desert track from Timbuktu)

AFSC has worked in this region for ten years, first helping a diverse group of nomad families, displaced and made destitute by the drought of the early 1970's, to settle and form a new community. These groups, generally the poorest in the region, have settled along seasonal branches of the Niger River and near depressions in the land that catch the rain that does fall. Here they practice agriculture but are hard put to feed themsleves, even in a good year. When the rains do not come, or the river does not rise sufficiently, they face disaster and further displacement.

The AFSC program has been worked out with the leaders of these communities. It involves employing community members to build and improve dams and inlets, level lands, remove blown sand, so that the areas available for agriculture are enlarged and water retention is improved. Work that could be done in a very few days by the region's one bulldozer is done at the same cost in four months by crews of about 30 workers.

This has three particular benefits. Funds go to provide salaries and work for many people (and therefore food and shelter for many families) instead of to the single owner of the bulldozer. The workers gain new skills and are reinforced in their belief that they can improve their

circumstances through their own work in the community; and the communities and others who observe them gain confidence that there are ways to address the problems of survival even if traditional ways are blocked; that is, they recognize their own capacities to deal with change creatively.

In terms of the definition of development as the reduction of vulnerability, then, this program assists people in three ways — directly and immediately: they have more food and their physical vulnerability to disease and death is reduced; over time: they have new skills and can build and repair more dams and channels on their own, so that they are less vulnerable to future disasters; and against fate: they know that innovation and change are possible and that they can be agents of their own adjustment.

The difficulties and dilemmas for this work in Mali are many, but perhaps chief among them is that it is carried on in an area subject to repeated, severe drought which leaves people in need of immediate as well as long-term assistance. The questions are: how can long-term development help to alleviate the impact of future natural disasters, and how can immediate relief be provided in ways that enhance rather than impede continuing development? Relief assistance must somehow arrive to people where they are, help them to strengthen their capacity to survive, and avoid creating new dependencies — a large order in an extremely poor land.

This discussion has focused on people and communities at the local level and on what might be called micro-development. It has not placed these projects fully in their national and international contexts, but we know that macro forces do impinge with enormous significance on the capacity for local development.

Such global phenomena as the thrust towards militarization and the consequent tendency to rely on force to suppress, rather than development to meet, the demands of people for growth and opportunity; the constraints of international debt and the "conditionality" of IMF, World Bank, or other institutions for financial assistance to nations in financial trouble — conditions that almost always mean further deprivation for those already deprived; the links of poor nations to a world economic system that requires them to provide exports (generally of cash crops or other raw materials) to gain foreign exchange and pay off debts but also deprives them of the opportunity for self-reliant development; and patterns of economic distribution within the countries themselves; all these have impacts on the possibilities for real local development that may make people less vulnerable.

Training and preparing staff for NGOs and international agencies

After discussing many of the problems with current education and disaster intervention work in the Third World today, participants at the Institute held at Harvard turned their attention to the ways in which the staffs of the agencies which are involved in disaster and development work could be better trained for greater effectiveness. Following are the comments of two actors in the educational/training field.

Donald Schramm addresses the basic issues that are at the center of efforts to provide training that is useful and practical to those who work in the disaster/development field. He then describes the program, recently launched at the University of Wisconsin-Extension, to provide such training in the field or wherever people are at work, through self-study curricula pertinent to all phases of disaster management, including mitigation, preparedness, response, rehabilitation and reconstruction.

Leon Haley surveys briefly the approaches of his and other schools of international training as they prepare people to work with the major development agencies and the private voluntary agencies. He reports the lack of curricula on disaster response and management, and he helpfully outlines elements of a proposed approach to including such training into the existing courses of the academic institutions currently involved in international administration and training.

The role of academic institutions in training agency personnel

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BACKGROUND

The Graduate School of Public and International Affairs at the University of Pittsburgh, where I am Dean, is a comprehensive school of public and international affairs with about 550 students and thirty-three faculty members, one of about twenty comprehensive schools in the country offering a range of programs in management and public policy, and about 200 similar schools that offer specialized programs in public administration.

Our objective is to prepare people for public sector careers and about 60% of our graduates actually go into the public sector, and 25% into the private sector. The remainder enter private voluntary agencies, both in the United States and abroad.

Our graduates generally enter administrative positions that cover a wide range of career areas, ranging from local government to international organizations, like the World Bank. One of our programs that is unusual in the sense that there are only about twenty programs in the country in this area, is the one we offer in economic and social development. It is geared primarily to training individuals who work in agencies, both in Third World countries and in the United States, that provide support for development activities such as the U.S. Agency for International Development, and others of the larger international organizations.

The program we offer provides students with two sets of skills — analytical and administrative. In the analytic area the emphasis is on developing increased capacity for solving problems and analyzing social, political and cultural situations in the environment in which students find themselves, whether in the domestic or the international context. We also attempt to develop capacity for assessing alternatives in policy development and decision-making.

In the administrative area, specialized training is offered in organizational development, planning, plus financial, personnel, information systems, and human resource management. In addition, because we are a large university, students can gain a sectoral exposure in public health, social welfare administration, engineering, law and any of the other major professional areas related to their management and policy interests.

What is missing (and this may come as a shock to some of you) from our curriculum and from the curriculum of most of the other 200 programs in international affairs is research or course work in disasters and/or disaster management. I am on a national review panel of the National Association of Public Administration and Public Affairs set up to address this major omission from American schools of public administration. The association did a survey of some 200 schools and found that only twenty or thirty offered either one or two courses in disaster or emergency management.

In the course of the survey, the schools gave reasons why they had not developed any course work in disasters or emergency management. First, they cited the lack of an integrated base and body of knowledge relevant to public administration in the area of disaster administration. They pointed to a void in the availability of organizational resources that might be utilized to develop courses or course components, or reference materials for students who might pursue this area. They also indicated a lack of awareness on the part of faculty in the implications of disasters for public administration. As a result, an effort is now launched to develop a core of researchers and teachers in the area of disaster administration. The Federal Emergency Management Agency is providing funds for this training and is bringing the scholars from various institutions together to begin to think about how they may incorporate disaster and emergency management in their programs or courses.

A SUGGESTED MODEL PROGRAM

I would like to suggest a framework for what I think institutions like ours could do based on what I have heard here this week. I will lay out a potential program or curriculum in disaster administration in the context of development. I have chosen as a focus of this curriculum model the question: What aspects of the role of the staff of private voluntary organizations in the development/disaster continuum could be improved through education and training to enhance their performance? This kind of question leads to the identification of educational gaps in our schools, and how these institutions could fill these gaps within their existing courses.

ANALYTIC COMPONENT

First, we need to construct a new paradigm of development. The faculty of our school in the social and economic development area have a very different definition of development from the one we have articulated in this Institute. They do not understand development as a reduction of the vulnerability of communities to disasters. Our program, as most in this field, is dominated by economists who measure change by the Gross National Product, balance of payments, and income; that is, by indicators of economic wherewithal and means.

But, what I hear in this Institute is that development is more than economic change. It is also a process by which we incorporate the impact of unanticipated natural and man-made disasters, using those events to alter, change and direct the process. I like this particular definition because it has a realistic sense of the paradox of development, incorporating the notion of disasters as inherent and endemic to the process of development.

Second, we have to deal with social/cultural analysis. We must have a curriculm that develops the capacity of students to analyze social systems, their methods for coping, and differences among economic, political, and cultural systems. I do not think our students currently understand that every place they work has a different social and economic environment; that it is, in that sense, idiosyncratic. In order to deal with questions of development, they will have to deal with the uniqueness of each environment in which they work.

Third, we must encourage "adaptive learning" which develops key abilities of students to recognize opportunities for change and the need to adapt organizational and administrative structures, processes and programs to respond to changes in needs. They must be able to move quickly from one way of operating to another when the first proves ineffective.

PRACTICAL/ADMINISTRATIVE COMPONENT

Under the rubric of practical or administrative skills we consider six major areas. First, and most basic, is communication. Foreign language competence and the mastery of interpersonal skills are essential. The second skill involves planning, policy and evaluation. This includes the setting of goals, the formulation of mitigation policies, and the necessary evaluation in order to determine what works and what does not. An effective evaluation process uses a loop to feed back into the policy planning process.

Related to this procedure is a third concern for research utilization and dissemination which does not solely aim at new research, but questions how to use what we already know. The fourth area is community organization and development which translates as training in effective methods for involving local residents in disaster planning, relief, and evaluation. Issues regarding organizational learning also fall here.

Students are often taught management skills with an assumption of stability in their working environment. Crisis management, a fifth topic, is by definition based on the opposite assumption. Management approaches in disasters face abnormal and unstable conditions, and hence require different strategies.

The last skill area that I will mention is that of training. Here we examine questions of how to train, to identify training needs, to use local resources, and to do all of these things with a focus on development.

CONCLUSION

This kind of model is adaptable to the kinds of schools that I represent, and would begin to address some of the staff training needs that have been reflected in the discussions of this seminar.