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INCREASING PRODUCTIVITY WHILE SAFEGUARDING THE ENVIRONMENT:

THE CHALLENGE OF THE SAHEL

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WITH DEVELOPING COUNTRIES

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1. Introduction: The Club du Sahel was set up in 1976 to support the work of the Permanent Interstate Committee for Drought Control in the Sahel (commonly known by its French acronym, CILSS) to promote food self-reliance and to reverse environmental degradation in the drought-stricken countries of West Africa* which possess fragile ecosystems and are especially vulnerable to climatic change. These are generally characterized by low annual rainfall patterns, with zones ranging from desert and sahel-saharan in the far north to sahel-sudanian and sudanian zones in the south. These countries face a major challenge: how to increase the productivity of their natural resources without degrading them. Environmental degradation is caused by a mixture of natural and human factors: lack of rainfall, increased population pressure on the land, overgrazing. Studies have shown, for example, that grazing regions in the northern zones of the Sahel cannot support a population density exceeding 0.3 km2 while the current average is 2.0. In the sahel-sudanian zones further south, where a combination of herding and agricultural activities takes place, a World Bank study indicates that the maximum carrying capacity of the land cannot exceed an average of 15 people per km2, whereas the average now is more than 20, with much higher densities in certain zones such as the groundnut basin of Senegal, the Mossi plain in Burkina and the Zinder-Maradi region of Niger. The result is devastation of the natural brush cover, loss of forests, insufficient fallow and soil erosion.

In collaboration with the CILSS, in the period 1979 to 1983 the Club undertook a number of sector appraisals country-by-country, notably in irrigated and rainfed agriculture, village water supply, ecology/forestry, fisheries, and human resources. The livestock sector is currently being analyzed in certain of the countries. These appraisals generally deal with the array of constraints to production, including inappropriate policies, socio-economic factors, limitations on natural resources and institutional problems.

*The member countries of the CILSS are: Burkina Faso, the Cape Verde Islands, Chad, the Gambia, Guinea-Bissau, Mali, Mauritania, Niger and Senegal.

The ecology/forestry reports showed that fuelwood demand represented the major pressure on forest resources, and was, therefore, a leading cause of land degradation, while government policies often undermined plans to increase forest production. Donors accorded (and continue to accord) scant priority to this sector. A number of projects introduced new species which were expected to be faster-growing and more productive, but their performance was often about the same as that of indigenous species. Costs of forestry projects were high, and, therefore, unsustainable by national forestry services or the local populations. In fact, most projects were being designed from the top down, and complicated land tenure issues combined to discourage villagers from expanding their tree-growing. The studies pointed the way, however, to some necessary reforms, among them land tenure, popular participation, natural forest management and agro-forestry. We are subsequently finding that, while government-to-government projects (the traditional donor approach) are encountering implementation difficulties ranging from moderate to severe, there is mounting evidence of some real successes at the local level, usually encouraged by the intervention and support of outside or indigenous non-Government organizations (NGOs). Everyone agrees that the trend towards land degradation (sometimes referred to as desertification, a term that does not meet with unanimous consent in the scientific community) must be reversed. The challenge is to find and adopt the appropriate mix of measures which are implementable. This report highlights our lessons and findings over the last 11 years and suggests some guidelines for the future.

2. The Sahel - Basic Data:

Population: 35,000,000 (mainly rural, but with rising urbanization, from an estimated 15% in 1980 jumping to 30% by 2000)

Principal Sector: Agriculture (mainly subsistence and some cash crops - millet, sorghum corn, cowpeas, peanuts, cotton)

Rainfall: varying from 800-1,000 mm in the southern regions to less than 100 mm in the north

Per Capita Income: ranges from $80 in Chad to $450 in Mauritania.

3. What are the constraints?

3.1. Population Growth. It is estimated that, at current growth rates, the population of the Sahel will be 40,000,000 by 1990 and 50,000,000 by 2010. With clear evidence that land degradation is on the rise due to more farmers cultivating marginal land, poor rainfall patterns in most years, and overgrazing by animals, Sahel countries must develop coherent national population policies and land use plans.

3.2. Methods of Conceiving Development Programs and Assuring Popular Participation. Everyone agrees that sustainable development activities must be fostered. But the practice remains the same: governments agree on development priorities, collaborate on investment plans, obtain funding, and try to impose schemes which too often cannot be sustained by the target population. Development programs must revolve around these guiding principles: sustainability, replicability, incentives (i.e., there has to be a pay-off for the producers - this means economic, financial and social soundness), and technical appropriateness.

3.3. Finding the Motors of Development. Due to the fragile ecosystems of the Sahel countries, their economies are inextricably linked with the more productive coastal countries. This is reflected in a number of different indicators, such as Sahelian immigration and cross-border trade. This argues for more regional planning and concertation. Unfortunately, the panoply of African regional organizations has not provided the hoped-for coherence to this planning process. It is essential that future development plans be based on the real productive potential of the countries, not on unachievable goals. For instance, agriculture should be encouraged in areas where the water resources and soil quality justify investments. In the absence of adequate water supply, alternative investments, such as livestock, should be considered.

3.4. Inadequate Planning/Management Capacity and Insufficient Operating Resources. Government bureaucracies are confronted by a host of conflicting problems. Revenues are down as a result of declining investments and incomes (because of recent drought conditions, among a host of reasons). Government services are under-funded and numbers of skilled managers and technicians are limited. This means fewer services available to the population, both in terms of advisers and goods such as

subsidies and credit. While training programs can provide more skilled service personnel, budget realities of the governments dictate limited possibilities for improvement in the foreseeable future. This means that programs must be designed for management and implementation largely by the target population themselves, such as village groups and cooperatives. These institutional constraints are as much an obstacle as the other constraints to dealing with environmental problems because they present obstacles to the whole process: defining, planning, managing, implementing.

3.5. Land Tenure. Existing land tenure laws have been richly studied and the conclusions are similar: without clear definition of ownership, land users do not have the incentive to produce. This is especially problematic with respect to tree-growing. Agricultural lands are usually controlled by some kind of village organization, whereas legislation over trees does not typically guarantee harvest to individuals. The introduction of agro-forestry has helped but improvements in the existing land tenure arrangements are urgently needed. Governments' failure to act on this is, at least in part, due to the institutional weaknesses identified in 3.4.

3.6. Insufficient Donor Coordination. Here, too, everyone advocates closer donor coordination, sometimes called concertation. But diverse planning and programming procedures militate against full compliance with this goal. The Club du Sahel has learned that different mechanisms can fulfill different purposes. In-country coordination can take a variety of forms but sector-level issues can be addressed regionally as well. For example, the World Bank Consultative Groups and UNDP round tables help focus attention on the macro-economic issues and development planning goals. The Club has created a number of informal, sector-specific groups made up of Sahelian and donor experts who, in sharing their knowledge and experience, reflect on progress, problems and achievements. Despite these measures, effective coordination of a country's investment program remains an elusive goal.

3.7. Encouraging realistic objectives. This problem is really a function of the constraints described in 3.4 and 3.6. Donors and host governments are too often seduced into financing schemes which do not meet the criteria of success. Shelves are stacked with reports of projects which failed to meet their objectives because they are not socially, economically or

technically feasible. Some especially vulnerable examples may be large-scale irrigation, industrial forest plantations, and green belts, and there are many others. The Club is playing a major role in getting donors and Sahelians together to debate the issues and, together, improve their programs. Many observers believe that, contrary to the frequent appeals for increased development assistance levels to Africa, the real problem is an insufficient number of carefully-prepared, appropriately-conceived projects within the context of a coherent development plan which meets the concerted approval of donors.

4. What have we done?

4.1. Sector analyses (bilan-programmes): The ecology/forestry sector analyses, carried out between 1981 and 1984 for most of the Sahel countries, helped focus attention on the progressive de-forestation of the region and on the decline in soil quality. A synthesis of these reports, issued as Sahel D(83)194, November 1983, shows that in the 1970s only about 1% of official development assistance (ODA) went into the forestry sector. There was only slight improvement on the percentage of allocation in the early 1980s but after 1982 the figure slipped to beneath one percent. The paucity of resources devoted to the forestry sector reflects the difficulty of identifying successful projects. However, the lessons are clear, and the synthesis report offers a number of recommendations for action, among them:

--Introduce a system of tenure that will benefit villages, districts, families or individuals.

--Transfer as much authority as possible to the local level, for example, to village councils.

--Integrate the tree into the agricultural and pastoral environment.

--Rewrite existing forestry legislation to conform with the demands of a system of collective and private ownership.

--Reduce consumption of firewood and charcoal.

--Protect and develop natural woodlands.

Efforts to move in these directions have been initiated, but they have been spotty. Reform of forestry and rural codes and decentralization of power have been under consideration in some countries but not yet implemented. Most countries have enacted legislation to protect forests and reduce fuelwood consumption but provision of incentives to encourage tree-planting is constrained by the problem of thinly-staffed government services and low budget resources.

4.2. Regional Seminar to Develop a Desertification Control Strategy:
The CILSS organized this seminar in November 1984 in Mauritania, which brought together for the first time all the Sahelian directors of agriculture, livestock and water and forests, as well as donor experts from all the major bilateral and multilateral agencies and some NGOs. Together they developed a general strategy which is essentially a set of principles to follow. These include the need to re-orient activities to render the target population responsible for them. It calls for such strategies to be integrated into the overall national development plans and, most importantly, it calls for multi-sectoral approaches to preserve the natural resource base and rehabilitate its productive potential.

4.3. Preparation of National Desertification Control Plans:
With assistance from CILSS and the Club, several governments have put together what they call national master plans for desertification control.* They typically contain three sections: the first summarizes the current state of the environment in the country and describes the causes of degradation. The second outlines a proposed strategy and program orientation. The last section, which the countries usually add, is a "shopping list" of projects for funding by the donors. (This list is often not correlated with the previous sections.)

4.4. National Meeting with Donors to Review the Plan: Three countries have presented their plans to donors: Niger, Mauritania, Mali and Burkina Faso. In two cases,

* Plans have been prepared and approved in Burkina Faso, Mali, Mauritania and Niger. Draft plans are currently undergoing review in Cape Verde, Chad, the Gambia and Senegal.

inter-ministerial coordination committees on desertification have been established, which meet periodically meet with donors. However, evidence to date suggests that these mechanisms have not really provided the impetus for effective changes in approaches to natural resources management. This is probably due to a number of factors:

- (1) The plans often reflect the work and view of only one department or ministry, typically called the ministry of environment, or water and forests, or protection of nature. In many cases, the meeting with donors revealed a lack of sufficient input and accord from fellow technical services, such as agriculture and livestock, or from central ministries such as planning and finance.

- (2) Follow-up and monitoring of the decisions made at the meeting are insufficient, as evidenced by lack of coordination between the technical ministries, despite the establishment of inter-ministerial committees.

- (3) The plans lack the depth of analytical substance required to set the stage for project re-orientation and/or identification. This indicates the need for further work.

- (4) Donors cannot re-orient their programs overnight. They need to gather more information on the nature of the problems and spend greater effort, in collaboration with the host countries, on identifying workable solutions.

5. <u>What do we propose to do</u>?

5.1. <u>Identify successful projects</u>. A number of organizations are working on relatively small-scale activities in the field which are showing positive achievements, i.e., developing sustainable production systems which safeguard the natural resource base. These successes seem more typically oriented on micro-type, NGO-supported activities. Some major donor projects are also showing promise. There have been some recent attempts to highlight these successes. The International Institute for Environment and Development (IIED) sponsored a Conference on Sustainable Development in April 1987 in which four successful projects were analyzed and presented. The World Bank is conducting an internal assessment of all natural protection activities in certain countries of West Africa. The World Resources Institute is proposing to undertake development of a cooperative program to promote resource conservation and

agricultural productivity in sub-Saharan Africa. The German CILSS Program (Programme allemand CILSS, headquartered in Ouagadougou, Burkina Faso) is developing innovative integrated resource production projects in selected ecological zones in the Sahel.

5.2. Conference on Ecology and Rural Development in the Sahel: Recognizing the need to promote the sharing of these positive experiences and to link more closely the concepts of increasing productivity while protecting the ecosystem, the CILSS and the Club, in collaboration with the German CILSS Program, are planning a conference to be held in the Sahel in mid-1988.

5.2.1. The objectives of the conference are to:

- (1) identify and develop methods which can be applied to arrive at better integration of natural resource protection in production systems; and

- (2) promote a dialogue between technicians working in the field (both Sahelians and non-Sahelians) and policy-makers among the Sahelian governments and the donors in order to arrive at some practical, concrete conclusions.

5.2.2. The principal themes will be:

- (1) how to arrive at better use of the productive potential by improving management of natural resources

- (2) how to improve production systems on a sustained basis

- (3) What kinds of social and institutional set-ups are required to develop and sustain improved natural resources management? And what are the implications thereof for governments' and donors' policies?

5.2.3. Although the Conference is still in the early planning stages, we intent to commission a series of studies which will be prepared for the Conference. These will include a synthesis report of the national desertification control plans and case studies dealing with protection of ecosystems and development of natural resources. A number of other subjects will probably be reviewed, including popular participation and organization, land-use planning and agrarian reform, agricultural production systems (and their integration with livestock), water and soil conservation measures, re-afforestation, and the role of women in production systems and natural resources protection.

6. Conclusions

6.1. The relationship of the Sahelian population with its environment is no longer in balance. Traditional grazing land has been lost, agricultural land has become less fertile and the forest cover has substantially diminished. Drought has lowered rainfall averages while the number of Sahelians has doubled in a generation, bringing with them a significant expansion in the application of production systems. The restoration of earlier, more favorable rainfall patterns may bring a temporary balance but would not be sufficient to offset these influences.

6.2. Donor countries must work more closely with developing countries to identify positive measures and undertake to expand them. To succeed at this, the following conditions are required:

- (1) a willingness of host countries to organize themselves more effectively and to abandon costly, grandiose projects in favor of smaller projects which provide decentralized authority to local population groups

- (2) a willingness of donor countries and organizations to re-orient their programs accordingly

- (3) the commitment of both to experiment and capitalize on limited successes.