

The Problems in the Sahel

Seeds of Famine. Ecological Destruction and the Development Dilemma in the West African Sahel. RICHARD W. FRANKE and BARBARA H. CHASIN. Allanheld, Osmun, Montclair, N.J., and Universe, New York, 1980. xvi, 268 pp. \$19.50. LandMark Studies.

The Sahel famine of 1973 was a major event in Western consciousness. Before the famine few people outside Africa could have located Mali, Niger, or Upper Volta on a map. After the relief effort was over—too little, too late, and much of it anyway hijacked by governments and merchants—a huge recovery program started. Few places in the Sahel today do not have at least one and sometimes several ambitious development projects financed by the World Bank, the U.S. Agency for International Development, the European Common Market, or one of the Arab oil funds. The United States in particular, for a mixture of strategic and humanitarian reasons, has become a major donor in an area formerly considered a French fief. In countries where the average annual per capita income is about \$100, international aid now amounts to at least \$25 a person. Despite this, the situation does not seem to improve. The director general of the U.N. Food and Agriculture Organization and the Malian president, in his capacity as head of the Sahelian interstate drought committee, recently announced a widespread failure of the 1980 harvest (1979's was bad also) and called for massive emergency shipments of cereals.

Seeds of Famine is an unusual book. It attempts a radical analysis of the political economy of food shortage and environmental destruction in the Sahel; it combines description of longer-term changes in Sahelian agriculture and class structures with an examination of current development projects; it analyzes the dependence of the Sahel on external economic links; and in this ambitious effort it largely succeeds. The authors' argument is that the tragedy of the Sahel started with colonial conquest by France in the 19th century. France used the cheap labor and extensive land of the Sahel to push cultivation of peanuts, a major source of vegetable oil for French industry. A combination of heavy taxation, obligatory labor, and sheer force were used to coerce unwilling peasants

to give up some of their food crops to cultivate peanuts on a large scale; as a result, food production declined and there was less food stored in granaries against the bad year every peasant expected. The same process continued later with cotton.

The result was that food crops scarcely kept pace with population growth and that the Sahel countries became increasingly dependent on a small number of exports, almost exclusively to France, to pay for their imports. This in turn made Sahelian countries vulnerable to declining terms of trade (the value of their exports of peanuts and cotton fell relative to the cost of imported manufactures), to foreign business cycles, and to commercial rivalries of the Western countries. It also led to the creation in Sahelian countries of a small class of local civil servants and merchants whose interests lay in encouraging, after independence, the type of export cash crop agriculture and centralized government apparatus developed during the colonial years.

The rapid extension of peanut farming led also to impoverishment of soils and to reduction in the bush fallows essential to soil fertility and for cattle; this upset the previous symbiosis by which cattle grazed the fallows and later the crop residues, while manuring the fields. Pressure on the land extended cultivation into pastures previously used only by herders. Efforts were also made to change traditional herding into an export-oriented livestock industry: to this end many new wells were dug, and the concentration of animals around them added to the overgrazing caused by the reduction in pastures.

In the light of this analysis, the authors conclude that the 1973 famine was no more than a particularly low point in a downward political, economic, and ecological slide that preceded 1973 and has continued since. They go on to describe the various, more limited, interpretations of the events of 1973 and the international response that has followed, including the activities of some transnational enterprises, and to analyze the class interests working against the stated aims of development projects.

Apart from their description and critique of current development projects,

most of what Franke and Chasin have to say is not particularly new; it has, for example, been the theme of much French analysis of events in the Sahel. But Franke and Chasin have read widely and well and have put together a lot of hitherto scattered analysis in a major critique that is unique in English.

In such a broad sweep there are bound to be inconsistencies and weak points. The authors give an unduly rosy account of a precolonial West Africa of relatively prosperous and stable communities without catastrophic famines. The Arab historians' accounts of the Sahel in the Middle Ages do not support such a view. It seems likely that precolonial West Africa knew both good and bad periods (such as the aftermath of the Moroccan invasion of Mali in the 1590's), and the study of these periods would throw useful light on more recent events. In fact, making too marked a contrast between West Africa before and after colonial conquest only discredits the radical thesis, since it is relatively simple for those who do not believe the thesis to point to precolonial famines and throw the baby out with the bathwater. The important point is that 100 years of European and more recently U.S. involvement in West Africa, including some huge post-independence development schemes, not only have not made the Sahel proof against natural disasters but have if anything made some populations within it (poor peasants and most herds-men) more vulnerable than before.

Franke and Chasin are good on the agricultural economy but are less persuasive in their analysis of changes in the pastoral economy. This is important, since herders were the hardest hit in 1973 and many have not yet recovered. In part this weakness in the analysis is the fault of a relatively sparse literature on the political economy of pastoralism as opposed to agriculture. It seems likely that more complex processes are at work in the pastoral economy, including the breakdown of traditional redistribution networks within pastoral society and traditional ways of providing pastoral households with the animal capital on which production depends. Since almost all pastoralists eat some millet they do not produce, they are also necessarily more dependent than poor farmers on market exchange, and hence are especially vulnerable to changes in the value of milk and meat compared to that of millet. Although the long-term trends in these terms of trade are still unclear, there is no doubt that violent short-term fluctuations do take place, with disastrous consequences for herders.

Franke and Chasin correctly identify as the crucial problem for Sahelian development the increasing control of factors of production by "elite groups," and one of the most valuable parts of the book is the analysis of the likely consequences of this class structure for current development projects, the staffs of most of which seem entirely unaware of the dangers that even a superficial reading of, say, the literature on the Green Revolution would alert them to. In contrast to these large projects with uncertain or even entirely negative results, four apparently hopeful projects are also described. All are small-scale, funded by nongovernmental organizations, and staffed by dedicated people with much local experience. Franke and Chasin are alive to the paradox of such projects, which many observers consider to offer the only viable mechanism for future development assistance in the Sahel. These projects work precisely because they are small, have intensive input from well-qualified and dedicated people, are outside the main channels of aid organization and government bureaucracies, and do not threaten on a large scale the vested interests of the local elite or the civil service. For these same reasons small projects are and can only ever be marginal in alleviating the real problems of the Sahel.

The challenge is how to apply the new ideas tested in these small projects through the large-scale means that really can change the situation of peasants and herders—that is, through national bureaucracies and major aid donors. To accomplish this, concerned scholars must envisage a long march through the institutions that control rural development in the Sahel.

Some Sahelian bureaucracies have for short periods gone in the right direction, sometimes with help from outsiders. Although this is often eventually stopped, the gains of rural people are not easily taken away once their expectations have been aroused and they have acquired experience negotiating with the bureaucracy on a more equal footing. Organizations like the Federation of Soninke peasants described in this book are a countervailing power to the weight of the bureaucracy and to the pretensions of aid agency planners, and show the direction in which development projects should go if they are to change the dismal prospect of famine in the Sahel.

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A Program in Epidemiology

Cardiovascular Risk Factors in Children. The Early Natural History of Atherosclerosis and Essential Hypertension. GERALD S. BERENSON and seven others. Oxford University Press, New York, 1980. xviii, 454 pp., illus. \$29.50.

Cardiovascular Risk Factors in Children is a comprehensive presentation of a major epidemiologic research program, the Bogalusa (Louisiana) Heart Study. By examining more than 4000 children, blacks and whites, up to 14 years old, the authors determined the total community patterns of factors—principally involving serum lipids and lipoproteins and blood pressure—known in adults to increase the risk of atherosclerosis and its complications, against a background assessment of each child's attained growth and sexual maturation.

The results from Bogalusa are reviewed not in isolation but with careful attention to corresponding data from other studies, thoughtfully discussed and cross-referenced in an extensive bibliography. This book also provides what the usual research report cannot—both a detailed report of the technical and methodologic work preparatory to the main study and a discussion of the practical implications of the conclusions. In consequence, cardiovascular epidemiologists and pediatricians in particular should find the book valuable. It is also to be commended to the attention of physicians in general, persons responsible for health policy pertaining to atherosclerosis and hypertension, and anyone interested in the origins of these major causes of death and disability in the population at large.

With respect to methods, the authors present an instructive account of their approach to the community, by which they obtained the participation of 80 to 90 percent of the target-age children—newborns, preschoolers (2½ to 5½ years old), and school-age children (5 to 14 years old). Measurement techniques were evaluated extensively in preliminary studies focusing on laboratory determinations (especially of lipids and lipoproteins), blood pressure measurement, anthropometry, and dietary assessment. Statistical appendices give additional details concerning the analytic methods used.

The methodologic accounts are informative in themselves and offer exceptional insight into the technical foundations of such a study. Further, they aid importantly in the interpretation of the

overall results. For example, it is important to understand the extent to which the blood pressure values recorded are affected by choice of instrumentation, cuff size, circumstances of measurement, and criteria for diastolic pressure. The meaning of the resulting data is thus better understood, and the care that must be taken in comparing them with findings of other population studies is more clearly recognized, than could otherwise be the case.

The substantive results of the Bogalusa Heart Study are presented in 15 chapters organized according to the main topics of anthropometry, lipids, blood pressure, diet, and "multiple risk factors." In general, the data are tabulated and plotted by age, sex, and race with simple descriptive statistics as well as correlation or regression analyses. Each chapter closes with a commentary and summary. Having drawn the material in the book in part from their previous publications, the authors acknowledge the existence of some inconsistencies or overlap among chapters, but these do not detract seriously from the presentation of the main results.

The patterns of serum lipids and lipoproteins in childhood are shown to relate (in these cross-sectional data) to chronological age. Lipid levels appear to be essentially established in the preschool years, whereas lipoprotein fractions differ in their variation across older age groups. Especially for blood pressure, variation within each of the four sex-race groups is related more strongly to indices of body size and configuration than to age. The need to take body size into account in interpreting blood pressure levels in children is amply demonstrated by this report; an appendix provides grids for, among other variables, systolic and diastolic blood pressure as related to weight and to height. Some longitudinal observations are also presented for serum lipids (birth to 1 year) and for blood pressure (one-year intervals starting at ages 5, 8, 11, and 14); useful data on prediction of later values are given.

Finally, the authors offer recommendations concerning techniques of examining children and modification of blood pressure, level of serum lipids, and certain specific abnormalities found frequently in their survey examinations. The strategy proposed, in general, is to advocate prudent hygienic measures at the community level and to reserve specific treatment for individuals whose evaluation indicates exceptionally high risk. Support for these recommendations is drawn from the author's and others'