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SOCIOLOGICAL FACTORS IN THE NATIONAL CEREALS PRODUCTION PROGRAM

I. SUMMARY:

Pursuant to a contract between REDSO/WA and Er. Robert B. Charlick a field analysis of the sociological aspects of the proposed USAID National Cereals Project for Niger was undertaken. This report deals primarily with the design of extension services for the promotion of specific technical changes, and with the implementation of the seed multiplication scheme using "paysens multiplicateurs". In offering this analysis the report presents a detailed evaluation of the operation of the auto-encadrement and the UNCC cooperative programs as they have been functioning in the Zinder Regional Productivity Project (Project 3 M). The report uses a combination of documentary evidence, including an analysis of prior seed multiplication programs in Niger and studies by other researchers, as well as field level interviews with cadre and with farmers in the 3 M area. Both systematic interviewing with quantitative treatment, and depth interviewing have been employed.

General Findings

1. The project has a good chance of making a significant impact, not only on millet production in the short term, but on the longer term modernization of village agriculture.
2. There are no major "cultural" barriers to the introduction of the techniques (with the possible exception of the changes in the intercropping implied by density themes). On the contrary, Hausa village producers, at least, seem ready to accept high return modifications, even at the expense of some important existing practices (method of stocking, traditional varietal selections).
3. The most important determinant of project success is the extension system. It must be substantially modified and strengthened. Elements of a recommended extension system include:
 - a. An integrated development approach at the ALC (4 to 10 coops, 60 to 100 villages) and cooperative level, with one agricultural technician and one cooperative and credit agent in each ALC. In particular cases they would be joined by a forestry or animal husbandry agent, and they should be supported by a specialist in farmer training. These agents normally should be trained at KOLO.

b. A team of one agricultural agent, and one credit and cooperative agent for each cooperative (grouping of 5-10 village mutuels - GMVs). They would have major responsibility for supervising village seed multipliers and demonstrators, and for organizing the local cooperatives of credit and marketing of millet. Their work would be divided functionally. These agents would be trained in the converted CFJA-now to be called the Centre de Formation Acceleree des Agents de Terrain (CFAAT) and would be recruited at the CEP level of formal education, or from among exceptionally qualified graduates of the Young Farmer training centers (see below).

c. A network of village demonstrators (initially one PDA per village, and village extension workers (AV, one for 3-6 villages who would work with the cooperative level agents on a continuing basis to supervise extension programs and to perform intensive, convincing on farm demonstrations).

d. A group of young progressive farmers, who would be especially trained in culture attelée in programs modeled on the Centres de Perfectionnement Technique in Zinder. These young farmers would be integrated into the extension system either as AVs, or as contract seed multipliers. They would be recruited among the villagers and their educational level would vary from formal education to less than the CEP level.

e. An extension expert located at each seed center, who would help the cooperative level agricultural and cooperative agents organize and administer village seed multiplication through the use of young farm center graduates, AVs and other volunteers.

4. The strengthening of the extension system implies an important increase in the number of field agents, particularly of cooperative and credit agents (UNCC). It is possible that the extension system could be organized as a UNCC operation with a merger of cooperative and technical field agents at the ALC and cooperative levels. Another way in which it could be approached would be the creation of a new Rural Development Service which would integrate field agents from technical services, cooperative and marketing services, and training specialists at the operational levels of program implementation (arrondissement, ALC and Cooperative).

5. It is necessary to reconsider the organization of local level credit and cooperative organization. Village-wide credit responsibility seems inappropriate in most cases to effective debt recuperation and villager participation.

One way in which the reorganization could be approached would be on the basis of sub-village associations of producers who would mutually assure loan repayment for modernization inputs from in-kind payments of selected millet. Credit could also be made available to seed multipliers and official demonstrators on an individual basis, if they preferred, guaranteed by contracted millet sales. The GMV (Groupements Mutualistes Villageois), presently the basic unit of UNCC organization corresponding to the village, would become a functioning amalgamation of several more truly cooperating groups. The GMV could continue to be the unit of peanut marketing and cooperative representation, but it would eventually become a more widely representative organization as different subvillage groups participated in naming its officers. The reorganization proposed, while not feasible in the past due to a lack of UNCC village-level agents, could be accomplished with the recommended levels of extension service discussed above.

6. The Mass Media, particularly radio, have the potential of reaching a large rural audience with general messages concerning the proposed technical change program and of complementing the extension program. This media is seen to be particularly important because of the difficulties inherent in face-to-face information dissemination within the system, particularly for the farmer of modest status. Mass media messages can make him aware of the general technical themes so that he can better appreciate demonstrations, and eventually be motivated to get more specific information and to adopt the techniques. There is a large listening audience, many of whom currently hear agricultural broadcasts from Nigeria (Kaduna). It is recommended that radio Niger begin a program of regular radio broadcasts covering the general productivity themes. An illustrated poster program in villages would also be helpful. Literacy programs, while they probably have a higher long term payoff, are likely to have little impact in the short term. All media will reach the better-off, more influential villages more readily than the others, but there should be considerably more spread effects.

7. The multiplication of selected millet varieties can be effectively done by a combination of regionalized seed centers and farmer - contractor seed multipliers, given the extension system proposed above. The possibility should be considered of creating one seed center in each arrondissement which will be participating in the project.

SOCIOLOGICAL FACTORS IN THE NATIONAL CEREALS
PRODUCTION PROGRAM (UCAL - CRNI)

II. INTRODUCTION

Today, with Niger looking forward a reasonably good harvest, the crisis of immediate starvation for many of its people appears to be near an end. Yet the magnificent job of saving lives, the relief must be linked to the rehabilitation and development of the Sudano-Sahelian agricultural systems, if we are to move beyond annual crisis actions. Responding to this longer term need, the Government of Niger has designed a program for assisting the development of its cereals production on a nation-wide basis. The Government of Niger has already well aware of the need for productivity projects, as indicated by its Regional Agricultural Projects in Zinder and Maradi. USAID seeks to provide crucial assistance to reinforce, improve and encourage these regional production projects with special attention to cereal production. The aim of this assistance is not only to increase yields and total cereal production but to help Niger develop the capacity to penetrate the market of its society with effective means of marketing cereals.

In April 1974, an American team of experts was assigned to the design of the project, in the framework of the 1974-75 Term Rehabilitation program. Unfortunately, the team was unable to develop the technical data it required, as a result of the political instability made it impossible to carry out the necessary to address the issues of the project. Specifically the team could not evaluate the conditions which would shed light on the structural and organizational variations in designing the implementation of the National Cereals project. To remedy this situation, a study was conducted by Dr. Robert Charlick, whose previous work has been specifically with the social aspects of agricultural development, to examine these factors and to make recommendations for the design. This study was conducted in the field in Hausaland within selected areas of Hausaland from July to August 29, 1974.

The following report is a preliminary report of the findings gathered during the mission. It is intended to provide a specific perspective that it is necessary to take into account of a particular policy in an agricultural development program.

In order to know how an extension design is likely to work in Niger today, it is necessary to understand the characteristics of the society in which the scheme will operate, to know what the past experience with the extension programs has been, and to observe how current programs are working. In my view, the best way to establish these elements of information is to investigate the ideas and actions not only of the agents of change in the Departmental, Arrondissement and Sector (ALC) level, but also of the people who are being affected by the program. For this reason, the research for this analysis was conducted principally in Zinder Department, and principally in pilot areas of Zinder which had been the first to be organized in the regional development project. (Saouni ALC of Matameye, Droum ALC of Mirriah, and Koiya and Bande ALCs of Magaria). In each of these areas, but particularly in Saouni where I had baseline data from 1969-1970¹, the research involved unstructured interviews with farmers and field agents, and a consultation with local administrators who provided documentation on past experiences. All village level interviews were conducted in Hausa by the author with the aid of his research assistant-Sanousi Alassan. Much of this interview data is available on tape, and will be transcribed to provide additional documentation for the views expressed here. Many of the interviews were with individuals whom the author already knew quite well, hopefully raising the level of validity somewhat over the usual survey method. In Magaria, I was fortunate to have the assistance of Prof. John Collins who provided much needed information and introductions in the villages of the Koiya and Bande ALCs. In Droum I was aided greatly by Maman Dan Juma; who had formerly worked in animation in the area. The views and conclusions of this report, however, are my own. In so far as they are not based on random sampling of all Nigerian farmers, or even all Hausa-speaking farmers, it cannot be said that my generalizations apply equally to all of Niger. This report has little specifically on extension among the Djerma, or among the Hausa in the Northern areas of Niger (Tahoua, Tanout). But in-so-far as my field data is reflective of experiences in the Project 3 A1 its analysis and generalizations should be more useful than armchair arguments based on theoretical grounds. It is clear that much more field work needs to be done to predict precisely how a delivery system will work in various parts of Niger, and this report proposes that as part of the evaluation of the National Cereals Project a major effort be made to gather the needed data.

- 1) Charlick, Power and Participation in the Modernization of Rural Hausa Communities, unpublished doctoral dissertation. University of California at Los Angeles, 1974.

Meanwhile, it is hoped that the present report constitutes a modest contribution to a clearer view of the realities of the country and the village and to the way extension programs can and currently do operate at these levels.

The report which follows is divided into an examination of a number of specific issues, principally 1) Farmer Perceptions of the Technical Innovations proposed; 2) An examination of the Extension System, with special reference to the experience of the Project 3 M and to the role of the UNCC; 3) The Role of Mass Media in Communicating Technological Change; 4) The Design of a Seed Multiplication Program; 5) Suggestions for Evaluating the Impact of the National Cereals Project.

The localization of these centers can permit a much wider demonstration of new techniques and the specialized multiplication, distribution, and recovery of varieties particularly suited to specific areas. The seed centers could be administratively combined with the young farmer training centers (Centres de Perfectionnement Technique, discussed above). Each center could train approximately 30-40 villagers annually in culture attellee and other productivity techniques while producing its seed quota with student labor and additional wage labor. For the sake of manageability and to permit the seed centers to have a considerably longer term impact by doing villager training the individual seed centers themselves should probably not attempt to multiply more than 20 hectares of selected stock, even if this requires a larger percentage of the multiplication to be done of the village multiplier plots.

Seed multiplication contracts should be made with farm center trainees, and with AVs (village extension workers) on a priority basis. It is particularly important to continue working with young farmer trainees, and to offer them the possibility of earning cash revenue to pay off their culture attellee loans. AVs and farm center trainees offer the best debt risks, and the best potential for quality work, provided they are properly supervised. Additional seed multipliers could be chosen by the village chiefs and made responsible for credits on an individual, or work group basis. It is anticipated that at least initially, a high proportion of the multipliers, farmer trainees and AVs will come from the families of village notables.

8. Millet Commercialization

Despite the fact that farmers sell and exchange considerable quantities of cereal grains in the Zinder 3 M area, they have not begun to think of millet as a cash crop, or to set aside particular plots for cash sales as is done with peanuts. It is necessary to design a system of motivations which can produce the desired behavior of selling millet, initially to pay off input debts, and later to market regular surpluses.

The marketing mechanism for millet sales can be the existing system of UNCC cooperative markets, which already has trained commercial agents, and villager weighers, secretaries and market officials. The UNCC could enter into an agreement with the OPVN to serve as its purchasing agent, and it could guarantee each demonstration village the purchase of surplus millet at pre-established prices.

Initially, however, the problem is to assure the sale of sufficient quantities of millet to cover input loans and to recover seeds from multipliers. At the present time, after several years of drought depleted stocks there is a high farmer propensity to stock his own production in his own granaries, and an indication that price signals might engender only weak responses in cereal marketings. One way to remedying this situation is to contract demonstrations and multiplications with village notables who would repay their debts in kind (millet). Their primary motivation for repayment, initially, would be social rather than economic. In addition we should consider trying contract sales to tax payments, with a concomitant guarantee of tax credits in case of crop failure. It might also be desirable to offer target or demonstrator goods as an inducement for other farmers to sell at least part of their millet crop in exchange for goods which they want and would ordinarily have to purchase with cash. These inducements are designated to produce a mentality of commercial millet farming on part of the farm enterprise. In the mid and long term when village millet stocks return to a more normal level price signals will probably operate adequately without these target goods.

9. Evaluating the Impact of the Project

It is desirable to develop the information evaluating capability of Niger in rural development matters. USAID has a major opportunity to contribute, not only to the success of this project through a continued evaluation and feedback process, but to the building of an ongoing capability which is currently very deficient. The recommended evaluation program has four distinct steps. First it involves the preparation of a complete rural development bibliography for Niger to serve as a central research and planning archive. This documentation would be synthesized in a series of simple summary papers and would be used as training materials for policy level and implementation level Nigerien development cadre. It would also serve to identify key areas of research need. Expatriate African graduate students, including Africans from Dakar and Abidjan universities, could be offered the opportunity to work on areas of priority research. This research would be discussed with the development cadre in several stages of its preparation.

A third aspect of the evaluation program would involve the on-going evaluation of project impact in several villages. These evaluations should be organized in cooperation between Nigerien research institutions (CNRSH and the Bureau d'Etude et d'Evaluation of the UNCC), and foreign scholars. Short term missions of several months in each of three or four years coupled with an ongoing program on data collection by enquêteurs should be adequate to detail the impact of the program. This research should result in an annual review of project operations, hypothesis and organizational structures. Finally, annual training and evaluation sessions should be established for the Nigerien cadres involved in the project. These sessions should produce an exchange of research and field implementation experience, and some concrete proposals for new research and for modifications in project implementation. They should also serve to inform the Nigerien cadre of the research finding, including the review of similar or past project experience synthesized by the documental collection. This should lead to a training program in project record keeping and documented group evaluation of results.

SOCIOLOGICAL FACTORS IN THE NATIONAL CEREALS PRODUCTION
PROGRAM (USAID-GON)

III. THE ISSUES

ISSUE I - FARMER PERCEPTIONS OF PROPOSED TECHNICAL
INNOVATIONS

A. Attitudes Toward New Millet Varieties

Hausa farmers in the area studied manifest a high degree of appreciation for the productive characteristics of different millet varieties and appear to be enthusiastic about the idea of introducing an improved variety. Following the experience of the past few years their major criterion "improved varieties" centers around the length of the growth period. Even farmers in the southern part of Zinder area seem primarily interested in finding a hardy (drought-resistant) 70-90 day cycle millet, due to their fears about the shortening of the rainy season. Their second criterion of quality is the ability of the plant to tiller (multiply at the base) thereby greatly increasing its yield. In the past few years, farmers have begun to spontaneously experiment with short head millet varieties such as the Ba-Beri-Beri variety, said to be of Kanuri origin. Ba-Beri-Beri is grown extensively in the Northern areas of Zinder Department and in most of Mirriah county. Yet it does not appear to be a significantly shorter cycle variety. Farmers have also been planting a much faster developing but lower yielding variety which they call "Dan Tchama". In the southern section of the Zinder department and particularly in Magaria and Matameye, Zongo, a long headed 115-120 day variety is still predominant. Some experts have argued that the non-economic aspects of Zongo production, its ease of storage in bundles of unthreshed grain and the use of its long stalks for multiple construction purposes poses significant barriers to its replacement by a short head variety. I was struck however by the utter empiricism of the Hausa farmers on this score particularly following the disastrous rainy season of 1973 when much of the millet headed and never formed grains due to the early cessation of the rains. Farmers were unanimous on the point that the customary use of Zongo in no way prevented them from adopting a clearly superior millet variety which could not be threatened by a shorter rainy season. A corollary proof of this thesis is the rapid and again totally spontaneous change in varieties of niebe which has been going on for the past five years. Much more short-cycle niebe (45-60 day) is being planted despite its different color and cooking characteristics

I also found some farmers in the Droum area who were practicing a sophisticated risk reduction strategy of planting two and even three millet varieties of various cycle length and fertility requirements in the hopes of assuring themselves of at least a modest harvest. This practice illustrates how the farmer can appreciate multi-varietal tests and can make adoptive decisions on the basis of clear results. Conversations with these planters also revealed the high degree of appreciation of the influence of soil qualities and rainfall distribution on particular varietal development. Farmers for example believe that the longer cycle varieties require more fertile soil conditions, with Zongo being the most demanding of these. Short cycle varieties on the other hand may take nearly as long to develop as long as cycle millets if, as was true in 1974, early rainfalls are grossly inadequate.

There has been little practical experience with P3 Kolo millet in the area studied. The experience encountered has been mixed. Kolo, in the view of farmers who have tried it, is a long cycle millet requiring good fertility conditions. Under these conditions it bears a high yield. But it is specifically the absence of these conditions which has pushed farmers to seek other varieties.

The overall conclusions of this section that no significant resistance should be encountered to the diffusion of clearly superior millet varieties. However, superiority will be defined differently according to localized conditions of rainfall distribution and soil quality, and it may be unrealistic to expect P3 Kolo to be a proven superior variety everywhere, and in particular in the Zinder-Mirriah region.

B. Fertilization Techniques

There is no single area in which the Hausa farmers are more in agreement than on their concern for soil fertility and their appreciation of the importance of fertilization for crop yields. Fertilization for the Hausa farmer means the application of manure and house-hold wastes. The use of chemical fertilizers on field crops is sporadic limited, and declining due to supply and price constraints. In 1970 I found that 26% of the farmers in the area of intensive extension service had "over" used field crop fertilizer.¹ In addition 18% had tried fertilizer on irrigated garden crops (principally on sugar cane). But by 1973-74 no field crop fertilizer was used in the intensive extension zone and only 12% of the farmers had used fertilizer on irrigated gardens. This fertilization was often purchased in small quantities in Nigerian markets.

¹/ Charlick, op cit, Power and Participation, The area studied included three villages of the Saoui Cooperative in Matameye County Zinder Department.

Generally speaking farmers hold very positive attitude toward chemical fertilizers which they often consider to be superior to manure. While there is virtually no experience of farmer application of fertilizers on cereal crops, farmers have noted the residual effect of fertilizers in fields planted initially in peanuts and then in millet in subsequent years. Village producers do make some interesting distinctions between the effect of fertilizer and manure under different soil and rainfall conditions. They insist that in years with long periods of scant rainfall chemical fertilizer burns the young plants even more than manuring and therefore presents a greater risk. In years such as the present one however, they state their belief that fertilizer would have produced good results. The exact meaning of differing soil characteristics (sanyi, zafi, kwari - in the Hausa language) and their actual impact on fertilizer results, should figure in our research program, especially if we wish to persuade villagers in terms to which they already relate.

Despite this favorable attitude toward fertilizer, at the present time, there is little association between attitudes and fertilizer adoption for use on field crops. In the past fertilizer use resulted from decisions of the technicians to impose obligatory fertilizer sales in association with distribution. The most notable case of this policy in the Zinder area was the Barawa project for the promotion of the 47-16 peanut (1968-70).

In this program farmers were required to purchase one bag of fertilizer for three bags of seed. However, given the considerable resistance to the use of this high cost input on peanuts and the lack of proper supervision, much of the fertilizer was resold to sugar cane gardeners. The fertilizer proved to be the wrong type for sugar cane and burnt out much of the crop. In the subsequent year when fertilizer sales were made voluntary, demand was reduced by about two-thirds. In a contemporary peanut seed project run by IRHO, farmers are also required to use 75 kg of super phosphate for 100 kg of seed. In this case close supervision assures that most of the fertilizer is in fact applied to the seed plots. However, it is not clear that if fertilizer purchases were made voluntary that they would continue at the same high levels. Despite their highly favorable impression of the results of fertilizer on food crops, it seems that most village producers have not yet accepted the risk of voluntary incurring heavy expenses for the production of what they consider to be non-commercial crops.

It is only in the area of sugar cane production where fertilizer application is apparently spectacular both in terms of yields and quality, that there is a sustained vigorous demand. Here problems of supply and credit have played a more important role than total costs. Apart from the limited seed projects there simply have been no fertilizer loans available to producers for the past three or four years, and for the past year fertilizer has been unavailable from Niger's agricultural service even for cash.

We may conclude that while attitudes toward fertilizer and toward the need for improving soil fertility are very favorable, it will be necessary to promote vigorously the use of fertilizers on field crops and to both supervise users carefully and create impressive demonstrations of superior yields before much spontaneous demand may be expected to develop. Given the costs and the lack of experience in the use of fertilizers on essentially non-commercial cereal crops it may be preferable to introduce fertilizer on a rotation basis, using it first on peanut crops and then planting cereals in the field in the following year. Any massive use of fertilizers moreover, whatever its application will depend on the re-establishment of reliable and timely supply and on credit terms.

A final point in the discussion of fertilization techniques concerns the alternative expansion of mixed agriculture with more intensive manuring as opposed to chemical fertilizer use. Most farmers interviewed express a preference for increasing their herds as contrasted to purchasing fertilizer if these options were mutually exclusive. This is true despite the recognition of the longer effect of fertilizer and its greater ease of application. This attitude is most likely attributable to the greater familiarity with manuring and with its relative risks and to the other advantages of animal ownership, especially in terms of an investment and ready source of liquidity. Nor should the conscious choice of these two fertilization policies be ignored. Given the greatly reduced animal populations of agricultural Niger (Matameye arrondissement for example registered a decrease of 53% in its bovin population from 1968-73) it might be possible to increase herds considerably even in relatively high population density areas without over-extending pasture land. Combined with training programs in composting and systematic application of manure, such a policy might serve as a short term stop-gap until herds are reconstituted and hopefully fertilizer prices fall.

C. SEED DRESSING

The use of seed dressing (particularly fungicide preparations) is already a fundamental part of the Hausa agricultural system, at least in areas in which it is regularly available. Within the Project 3 M area supply through the village PDA or the AV has been regular and inexpensive. The result is near universal voluntary use at levels which seem close to the recommended doses. This represents a modest improvement over the period 1969-70, when my village survey indicated that 78% of the farmers regularly used seed dressings. There is also a high degree of confidence in the value of the product on the part of the farmers. It is used now not only on peanut seeds but on all major crops including cereals and niebe. No further increase in productivity may be expected from the promotion of seed dressings as part of the National Cereals Project in the areas studied unless it is found that the recommended doses are not being respected for millet and sorghum.

D. Density Themes

Proposals to modify the density of millet or sorghum seeding to 1 meter by 1 meter pose only one significant problem for Hausa villagers - the problem of intercropping. Enough has been written about intercropping to conclude that it is an important risk-reducing and space maximizing strategy as far as the local farmers are concerned. If the reduction of spacing between hills (more precisely plants) from the average of 1.2 meters to one meter poses no real problem, the reduction of spacing between rows may. Generally intercropping in this area involves the association of peanuts or niebe with millet. The association of sorghum with millet is less common now and presents little problem to National Cereals as it often raises total cereal densities to recommended levels. Peanut and niebe associations normally cover only a limited portion of the total farm enterprise (due primarily to lack of seed). It remains to be determined if the association of niebe or peanuts in a 1 by 1 density poses technical problems. From the point of view of the farmer using present cultivating tools the problem is minimal. Basically it involves only a training in spacing which seems to be capable of communication without requiring use of special tools. In the case of peanut density themes the farmers in areas reached by the daba-double program have almost unanimously rejected the tool while at the same time comprehending the principle of denser seeding. Even the village demonstrators rarely use the new tool on their fields with the exception of the official demonstration plot.

In the case of millet density themes the lesson is currently taught at the young farm training centers by the use of wooden hand drawn spacers. These may be used to demonstrate the point to farmers in the villages, but the use of a physical measure such as the arm-length, seems more practical for mass use. Unlike the peanut density theme, millet density proposals pose no serious problems either in planting techniques (the number of seeds per hole) or in the concept of plant development in the denser seedbed. For peanut development villagers argue that soil conditions and rainfall levels play an important role in determining the effects of denser seeding.

If it is found that intercropping is a major barrier to proper density of pure cereal stands, it is recommended that the farmers be encouraged to practice proper density on their non-associated fields, but that they be permitted to continue their traditional associations in their other fields. Efforts to suppress associations as in the IRHO program have met with sharp resistance, and are only successful where substantial control and authoritarian methods are possible.

E. Animal Drawn Cultivation Equipment (Culture Attelee)

Of the various elements in the package of technological changes proposed by USAID, the use of animal drawn cultivation implements poses the most serious problems. Since 1955 four separate formulae for diffusing this equipment have been attempted -- individual sales to progressive farm opinion leaders under the Societe Mutuelle de Production Rurale (SMPR-1955/60), sales to village credit mutuals through the UNCC for theoretical collective use (1964/69), sales to young farmer trainees (SIM and C FJA-1964 to present) and sales to peasant demonstrators through the Equipe Charrette mobile demonstration effort (1968/71). All of these programs have concentrated almost exclusively on traction by pairs of oxen rendering the equipment and its upkeep very expensive. The net result of these programs has not been encouraging. Very few individuals have bought the equipment and many purchasers have never been able to use it adequately. In one arrondissement which had received an intensive dose of each of these four efforts, it is estimated that only approximately 5% of the farm enterprises ever purchased the equipment, and that only about 25% of the enterprises had ever hired culture attelee either for cultivating or transport.

My recent study shows that only 8% of the farm enterprises employed animal traction cultivation in either 1972 or 1973. In most other areas of the country the figures are bound to be much lower. In addition it is widely recognized that the utilisation of equipment by adopters has been far from optimal. The only real successes and demand have been for ox drawn carts which can be used year-round for transportation enterprises. In the domain of cultivation, however, extension services for the instruction of adopters has been particularly deficient, leading many adopters to abandon their equipment and to be saddled by heavy debts for which their investment produced no return. Prices have continued to rise at such a pace (UNCC Note Circulaire C01/Approv/74 -- August 9, 1974) that the prospects of a wide diffusion of this equipment, even with proper extension follow-up seem remote indeed. It is possible that if the emphasis were put on conkey traction -- as was recommended ten years ago in Niger's Perspective Decennale -- the entire calculation for costs and possible use, particularly on sandy soils would be different. But as yet virtually all current training programs are for ox-drawn equipment, all past experience is conditioned by the use and profitability of such equipment.

There are three major reasons for which the USAID proposal recommends the promotion of culture attelee as part of the millet productivity scheme. First, it is argued that productivity could be improved by the use of the equipment to prepare the soil before spring plantings. Assuming the technical soundness of this argument for the sandy soils which constitute the vast majority of the surfaces devoted to millet in Niger, it should be understood that the recommended technique is one which implies a major change in farmer cultivating practices and attitudes. Studies in Maradi and Southern Matameye of current culture attelee users show that even they do not use their equipment in this fashion.^{2/}

^{1/} Service de l'Agriculture, Department de Zinder, Evaluation Culture Attelee M Dumont, 1968; Guy Nicolas Problemes Poses Par l'Introduction de Techniques Agricoles Modernes au Sein d'une Societe Africaine-Valee de Maradi unpublished 1969. Robert Charlick Study of 53 Users of the Culture Attelee-Matameye unpublished 1970.

^{2/}. Charlick op cit.; Nicolas op cit.

Other farmers seem interested in employing culture attellee, if at all, primarily on heavier soils or in garden plots. The only farmers who express a real interest in hiring culture attellee for use on sandy soils are those relatively well-off individuals whose non-farm occupations take them away from their fields a great deal during the rainy season, and their primary interest is in the first weeding of millet (Noma) or of peanuts (Barge).^{1/} In no sense then has the recommended practice become part of the "culture" either of owners of equipment, or of potential users. It may be difficult to introduce this use, considering that there is a preference to use the equipment for transport during this season as transport is far more profitable, and as for non-owners it would introduce a new considerable expense whose benefit is far from being obvious.

A second justification for the spread of culture attellee is that it permits the user to cultivate four times as much land as the farmer using hand tools. Given the fact that the entire thrust of the regional productivity projects is for intensification of land use rather than an extensive agricultural policy the necessity to promoting widespread adoptions of culture attellee is not clear. Rather it may make sense only from the point of view of equipment rental if manpower is a bottleneck for renters, and if the buyer must amortize his equipment in this fashion. Studies in fact show that few producers have sufficiently large land holdings to take advantage of the equipment's productive capability on their own farms.^{2/} It is also clear that most owners use the equipment relatively little on their own land, while the vast bulk of its use is in rental operations.^{3/} From this point of view the promotion of the equipment should be limited to a relatively small number of farmers who will use the material primarily as an off-farm enterprise, and then only if its value to productivity through its superior technique of cultivation is clear. A widespread diffusion of equipment would almost certainly either jeopardize the possibility of more intensive land-use with the return of some acreage to fallow, or it would bankrupt many of the purchasers.

A final argument made for culture attellee is that it promotes the use of manure and mixed agricultural systems.

1/ Nicolas, op cit, p86

2/ Ministere de l'Economie Rurale, Project de Developpement Rural du Departement de Zinder, Juillet 1971 Annexe 22 Table 2

3/ Nicolas, op cit, p86

While this argument is undoubtedly valid, it would appear to be a rather expensive way of producing manure, unless the cultivating equipment can be more fully used than has been the case in the past. Encouragement of embouche paysan would have the same effect without the heavy investment.

If it is determined that the technical advantages of animal-drawn cultivation are important to farm productivity, then we should make a number of decisions about the diffusion policy. We should diffuse equipment only to those individuals, such as the young farmer center trainees, who can get intensive instruction in its use and repair. We should encourage the use of donkey drawn equipment, both for cultivating and for transport. We should diffuse the equipment to individuals who can be followed-up by extension workers, and these individuals should be incorporated into seed multiplication or extension efforts so that they continue to use their equipment, and so that they can earn a sum toward its amortization. Finally, we should encourage buyers to rent out their equipment so that amortization can take place through intensification rather than extension of cultures. We should consider giving a cart to purchasers of cultivation equipment who are trained in its use so that they have still a better chance of paying off their debts.

ISSUE 2 - ORGANIZING AND COMMUNICATING TECHNOLOGICAL CHANGE

In large measure the success of the USAID National Cereals Project will depend upon the design and operation of an adequate technological delivery system. This is not only true because of the need to communicate the specific changes we have discussed above, but because these changes can hopefully lead to further modernization of the Nigerian agricultural system which can be communicated through these same mechanisms. The most important mechanism of the USAID proposal is the system of "intensive demonstration". It proposes to first use seed multipliers (see discussion in Issue 3 below) and then paid peasant demonstrators to introduce the techniques at the village level. Essential to the USAID proposal is a greatly strengthened network of extension agents, trained and organized, to work closely with these demonstrators. One agent for every two or three villages is the proposed formula. The proposal is clear on the fact that in recruiting "progressive farmers" and in giving them preferred access to valuable agricultural productive inputs it would be producing a short-term economic inequality which would serve to motivate other villagers to adopt the same process. The AID proposal may be viewed as an important departure from the classical methods of agricultural demonstration by fieldworkers, and a move toward a form of participatory agricultural change. It differs, substantially, however, from both the theory and

A. The System of Auto-Encadrement through Cooperatives in the Project 3 M

Both the Project 3M and the Maradi Regional Development Scheme have begun to put into place a structure of farmer self-help extension. In this system each village mutual (GMV) "elects" a farmer (called a PDA - Paysan Démonstrateur Agricole) who theoretically represents the village and who tests new techniques in his demonstration field. He works without any compensation and thus far has received only the most minimal inputs. The PDA is responsible for distributing agricultural inputs to other villages and for instructing them on the techniques he has learned by showing them his demonstration plots. In theory he also has a control plot which enables agricultural agents and other villages to compare the results. After one year of operation the PDA's of one cooperative (a grouping of 5-10 village mutuals) name one of their members as a Village Extension Worker (AV - auxiliaire de vulgarisation). This individual is responsible for supervising the work of the PDA's and for organizing the promotion of the new techniques among the mass of villagers with reference to the work of the PDA's. AVs are paid approximately 2000 CFA per month for five months during the rainy season and are expected to spend 15-20 days a month with the people of 5 or 6 villages. They also attend a number of training sessions usually at the village center of their ALC (Association Locale des Cooperatives) and serve as a vital link between the professional extension workers and the village producers. The AVs are also supposed to represent their cooperative in agricultural matters. While the AV is salaried, like the PDA, he is supposed to serve primarily out of a sense of obligation to his collectivity and it is the hope of the project designers that the cooperatives will eventually absorb the costs of these services.

The present auto-encadrement system as it has been operating for over three years in parts of the Zinder Department, has a number of problems which should serve as examples in the design of a National Cereals extension service. First, the AVs and hence, in turn the PDAs from whom they are drawn are not really "elected" by the village mutual assembly (see below the discussion of the UNCC). Rather they are named by the village notables and almost always are selected from among the notables, their family members or their close clients. They do not represent the "village" in the sense of all of its producers, but rather the dominant village group.

The PEAs perceive their work as a job which the dominant group expects them to do vis-a-vis demands made upon the village by the external authority structure. Where the dominant village group is weak, the PEA is usually weak and he does a poor job. The position and particularly the salary of the AV is seen as a reward, not particularly for being a good PEA, but for having influence among the other PEAs. Where PEAs know that they have no chance of becoming AVs (such as in the case with Suzu or Fulani PEAs within a majority of Hausa villages) they also tend to be poorly motivated. The implications of this fact are clear. The village demonstrators neither work for the reasons which the cadres presume, nor do they communicate information to villages as a whole. This is the second major defect of the system. AVs tend to work almost exclusively with PEAs or with notables from other villages and very rarely with the ordinary farmers in their various villages. PEAs rarely work with people outside their immediate influence group. In the words of the cadre in both Zinder and Maradi the "retransmission of information has been poor" and hence the technical themes which they presumably demonstrate are not getting effectively communicated to the village farmers. The fact that this demonstration system relies upon organized verbal promotion of the techniques suggests that there is really very little "demonstration" going on. In fact the demonstrations undertaken by these "elected" representatives have for the most part been very unimpressive and largely uncommunicated. Demonstrations by PEAs in the project 3M have centered mainly on the use of seed dressings (which nearly everyone uses anyway) and on density of peanut planting. After three years no PEAs had been given fertilizer for their demonstration plots. Often they did not get selected peanut seed either, planting whatever they received or whatever they themselves had in stock. In Droum they have at least gotten seed systematically, although in 1974 there was not enough selected seed (47-16) and so they were given a local variety. Control over demonstration plots has been poor so that there is no systematic effort made to plant demonstration and control plots at about the same time. Given the differences in planting dates, differences in seeds used, and the difference in method of planting (using the daba double on demonstration fields) it is not clear what is being demonstrated.

✓ Arrondissement de Mirriah, Coordination Evaluation de la Campagne 1973, by A. Nahadjou, Zinder January 1974

In addition efforts to compare yields of demonstration and control fields when done at all, have not been done in such a way as to come to the attention of most of the villagers. This is perhaps not all to the bad considering that the technical results of these demonstrations have been so mediocre. In Eroum, for example, nearly one third of the test plots in 1973 produced less than the control plots, and the levels of superiority for the others were by and large modest. The 1971 result in Satomawa-Magaraie judged to be satisfactory by the agricultural service, repeated the same pattern with one third of the demonstrations failing and with an average increase in yield of 23 kilograms of peanuts produced by an additional 10 kilograms of seed used. Even had this information been communicated to village farmers it could not have been expected to stimulate the spread of the technology.

Demonstrating among the AVs (salaried village extension workers) have not been much better. Fertilizer was made available to AVs only in 1973, at a subsidized price, but with the drought the technical results were disastrous. Millet demonstrations, undertaken in the Inkalou cooperative of Eroum this year, suffer from the same difficulties. With inadequate preparation and supervision by the agricultural service cadre the seeds arrived too late for planting at the same time as local sowing. They did not benefit from any additional inputs, and therefore cannot be expected to show a marked superiority over local varieties. For most of the growing season, moreover, the late start leaves the passerby with the impression of slower and inferior development.

B. Lessons of the Project 3M experience for National Cercals

The experience already recorded within the Zinder Regional Productivity project points out clearly the need for an "intensive" demonstration method. The first requirement of successful transfer is a convincing demonstration of superior technology. This can only be accomplished by a carefully prepared and executed demonstration, closely controlled by extension agents with sufficient knowledge to understand local production problems. In the 3M experience I found that with the introduction of the village extension workers (AVs) whose training was minimal the government agricultural extension agents decreased their already limited contact with villagers and worked almost exclusively with the AVs. ✓

✓ Note that in the 3M project extension worker is done by agents of the agriculture service and not by UNCC encadreurs, despite the fact that the PLA and AV are theoretically part of the UNCC cooperative system. The UNCC has no field agents trained in extension techniques. They are basically accountants.

Even their work with the AVs was insufficient to permit them to know how their village extension workers were performing their duties and to correct the defects observed. Rather than produce a system of extension that is closer to the farmer the auto encadrement system has actually removed many farmers from the scope of its information network. The only major success of the system is in the distribution of seed-dressing through the AV and PDA and this largely because as village notables they see this distribution role as an extension of a patronage functional and they are happy to have a wanted resource to distribute. If village level demonstrations are to succeed they will require much more careful supervision by more trained extension agents and a higher level of input use.

A second major problem which the 3 M experience reveals is the nature of demonstration in Hausa villages. My studies show that while farmers are observant of obvious differences in agricultural practices and in results they do not usually communicate these differences by oral pedagogy. Many farmers are envious of a neighbor who gets better yields and will not ask him why his fields are better. ^{1/} Farmers think that they know the reasons for yield differences, and attribute these differences to factors--principally to manure or fertilizer use, but also to available labor force -- over which they believe that they have little control. The crucial aspects of a successful field demonstration as far as farmers are concerned are to demonstrate such remarkable differences in yields that they cannot explain them themselves through traditional explanations, to make the reasons for these differences evident in a somewhat impersonal fashion (see below) and to make it clear that these new factors can be available to the farmer at a limited risk. Once farmers understand that they may have access to the factors which make a difference, that these factors have a good chance of producing a profit or at least of producing a supplemental cash income and that the risk of failure is not too great, many of them will react enthusiastically. The proof for this statement may be found in the virtually spontaneous spread of gardening technology, including new crops and fertilizer use among farmers who observed the example of innovative individuals in their area.

^{1/} This was true of 63% of the farmers I interviewed in southern Matameye in August 1974.

This analysis is substantiated by a careful examination of the relationships between former Party Committeemen, Presidents and animators and is even more obvious in a current examination of the holders of the new UNCC village and cooperative positions and the PDA and AV positions.^{1/} The implication of this fact is multiple. First, the new PDAs and AV serve largely for non-economic reasons. They serve primarily because of their responsibility to the dominant village group. It is not realistic at this time to talk of village elections to these positions, or of village-wide roles, except in a defensive sense. Second, the individuals who do serve can in many cases do a good job, because they are not just ordinary interested villagers, they are representatives of the village authority structure. If they do a poor job, the village authorities may get in trouble with the external authorities, which can cause trouble for all of the villagers. Third, as part of the understanding which villagers have concerning these roles, it is not inappropriate for an individual or for his group to benefit economically from the exercise of his duties. His gains are seen as legitimate as long as they do not entail obligations on the part of others. Hence, if the techniques are profitable the individual demonstrator should be able to get ahead. Finally, the capacity of these first demonstrators to undertake the risk should be substantially higher than that of ordinary villagers. While not necessarily the wealthiest individuals in the village these representatives to the external system are notably better-off than the average villager, and in addition can count on some resources from other members of the dominant faction if they should lose from their involvement.

^{1/} My recent investigations in Koya (Magaria) Droum (Mirriah) and Saouni (Matameye) indicated that the vast majority of the PDAs and AVs were in the immediate household of the town chief and only occasionally was it necessary to trace the relationship through a former animator or committeeman title to a kinship or clientship relationship to the village authorities. In a sense, the base of external participation has narrowed in relationship to 1965-69 since there are virtually no PDAs or AVs who like some former animateurs are not intimately linked to the local power structure. This reveals the extent to which the villagers take these new programs seriously.

This fact is associated with a complex understanding of power in the Hausa village which links position and influence with large economic units and with the capacity to distribute resources.^{1/} From one point of view this is a positive factor for the demonstration program, as the first demonstrators are likely to have the fields and manpower resources to conduct good demonstrations. But from another point of view it cautions us that not all potential village demonstrators will have these same risk opportunities. This is a particularly important point when we examine the possibility of placing heavy investments such as culture attellee with village demonstrators. There are certainly some villagers, outside of the immediate authority group, who are capable of taking the risk and who have the resources to move to higher levels of agricultural technology if good extension is available. But this is not the case for a good many village producers at the present time.^{2/} It is only when villagers can see that the proposed innovations are truly profitable, and when they come to believe that with their own resource level they can risk the change, that we will get a widescale demand for the inputs among the mass of village producers. It seems both sensible and necessary to make the case for this by the use of village notables in the first instance, providing that we understand that they are not just typical village producers. Once we understand this we will not be as concerned about their representivity, or the "retransmission by village demonstrators of information" as about making the most spectacular demonstrations of superior technology possible within the framework of resources which can be realistically maintained by at least some other village producers.

1/ Charlick, op cit pp.276-282

2/ I am specifically arguing against the contention that Hausa villages do not manifest significant levels of economic inequality (Guy Balianle, "Pedagogic de l'implantation du Mouvement Cooperatif au Niger" Archives Internationales de Sociologie de la Coopération XXIII (jan-juin 1968) pp 51-52; and the Consultants Report of the Maradi Development Project IBRD, section 2.10. See my Chapter V in Power and Participation and Polly Hill - Rural Hausa - A Village and a Setting (Cambridge: Cambridge University Press, 1972) I would further argue from my recent fieldwork that the economic inequalities are increasing as a result of the drought in that some farmers have been buying land and loaning millet while others have become deeply indebted and nearly landless.

C. The Project 3M and the Role of Young Farmers as Demonstrators

The USAID National Cereals Project proposal discusses the role of the Centres for the Training of Young Farmers, only in reference to their conversion into Centres de Formation Acceleree for extension agents. We have already indicated that these agents are badly needed if the system of village demonstrators is to work. They become even more vital for the operation of the Seed Multiplication scheme discussed below. However, already built into both the Maradi and Zinder Regional Development Project are centers for the training of young village farmers who will serve as "progressive farmer" models with a much higher level of technical competence than the AVs or FLAs. The question is whether these young farmer training programs should be retained in the Cereals Project as a supplementary element of the village demonstration programs, in addition to the conversion of the CFJA's into centers for training new cadre. Young farmer training centers are modeled after the pre-existing CFJA. There are three centers, called Centres de Perfectionnement Technique, already operating, with about 100 trainees from the cooperatives participating in the Project 3M. Like the old CFJA these centers concentrate on teaching the culture attelée, but they also teach in the course of their five month program, all the elements necessary for improving millet and peanut farming, and for proper seed multiplication. Unlike the participants in the Centres de Formation Acceleree the young farmers are recruited without reference to formal educations.

While there have been strong criticisms of the CFJA operations in the field of culture attelée these programs do in my view offer some promise for strengthening the village demonstration and multiplication projects. Under the Project 3M system the young farmers have been recruited almost exclusively from among the PDAs. (In several cases an older PDA has sent another young member of his family to replace him.) This means that the young farmers also drawn almost entirely from among the influential and potentially more prosperous families of the villages in the area. But as demonstrators they have one significant advantage over the PDAs and AVs. Villagers interviewed state that if they are in fact well trained the village farmer would be disposed to follow their advice, despite their youth. In this regard the Hausa farmer shows himself to be extremely empirical. Fully 77% of the farmers interviewed stated that they respect the advice of someone "who knows more than I do". Effectively, the farmers would treat these young people in much the same way that they do the young government agents, with a deference for their training.

1/ Nicolas, "Problems Poses Par" (Introduction, C117-118)

If the training programs do produce knowledgeable young farmers who can effectively demonstrate their skills in practice they are likely to have a significant impact in demonstration terms.

Drawn from the more influential families, the young farmers should have fewer problems of sustaining the costs of their equipment and of having access to land and manpower than was the case in the past of CFJA trainees. But they will still need to be formally tied into a demonstration system in order to assure their continued functioning and their economic viability with the culture attellee. I propose that, if the Centers are retained as they have been designed in the 3M project that the trainees should be offered the opportunity to serve for several years after their graduation as seed multipliers and as seed multiplication controllers (see below). This would at once assure them the income to pay off their equipment and to continue using it, as well as giving up their progress in the crucial period after graduation. This failure to build these graduates into a specific extension has been the major cause of their inactivity and loss of equipment in the past.

The ultimate decision on the desirability of maintaining these centers as part of the Cereals project, however, must turn on the importance accorded to the diffusion of culture attellee as a technique of improving production. If it is accorded high priority in the technical package then these centers take on particular importance, as they could easily provide the 20% of seed multipliers who would use the equipment and in the short run they would certainly be the best trained and most likely to succeed, as well as being the most capable of offering a persuasive demonstration to others. Again, an equity problem arises. It is clear that villagers from outside the influential group who already possess either oxen or culture attellee equipment might be more justly recruited for the centers. It is also clear that training these sons of notables will only serve to increase economic differentiation in the short-run. But it is difficult to design a method of recruiting these individuals in the present context given the orientation of villagers toward external interventions. When the program has proceeded for several years these individuals might begin to ask to be sent, thus broadening the base of economic change, and implying interesting modification of village political processes.

D. The Role of Mass Media in Technological Change

The study of the first three years of experience in the Zinder Regional Productivity Project tells us little about the role which mass media can play in the promotion of new productive techniques among rural producers. The only program which addresses itself to this aspect of the extension program is the newly organized functional literacy program. Begun in 1963 as a program to train the salaried cooperative market officials to read and do basic arithmetic operations relevant to the sale of peanuts, it has broadened recently with the training of "peasant instructors" whose job it is to carry literacy into the villages. The lessons are designed to present technical health and agricultural themes, and some good materials have been developed. But thus far the program has not had much impact in the villages. Most of the village level students seem to be youths who have not had the opportunity to go to school. This may be promising for a future group of farmers disposed toward development efforts, but its immediate impact seems limited. Adult farmers express little interest in attending the classes if they are not linked directly into an employment opportunity (such as an AV or market job). This program should definitely be continued with greater emphasis on pictorial posters in simple posters in simple Hausa (or Ljerma) which can illustrate basic technical themes, and which should be posted around the village. The Nigerian Extension Research Liaison Section, of the Institute for Agricultural Research-Samaru, has developed a number of excellent posters in this vein. There has, as yet, not been any systematic study of their impact, however. In the short-run, however, the literacy program as such will have a rather minimal impact on technical change for it will not reach many producers in the next few years.

A more promising short term media would seem to be the use of radio. My earlier studies showed that 42% of the farmers in the pilot extension area were "intensive" radio listeners.^{1/} The number of listeners and the intensity of listening in the control village which had not received all the animation-cooperation extension programs was much lower. However, nearly every village has at least one or two radios which while individually owned, are enjoyed by a number of adults (usually people forming a conversation group-ahokin hira). Agricultural broadcasts are not the major source of interest for most listeners, but a substantial percentage of listeners do recall hearing programs on agricultural subjects.^{2/}

^{1/} Charltek, *Power & Participation*, p 199. I defined listening intensity in this study by the number of radio stations the respondent could name.

^{2/} In the one village in which I conducted this survey in Aug, 1964, 26% of the adult males interviewed reported listening to agricultural broadcasts often, 29% from time to time, and 45% never. 27.

More listeners recall hearing programs on radio Kaduna, than on radio Niger and a distinction was frequently made between the kinds of broadcasts received. Farmers said that radio Niger tells them to get out and work hard, while Kaduna gives more specific farm information. The fact that many Nigerians listen to radio Kano or Kaduna with interest is confirmed by the statement of the Nigerian Institute of Extension Research officials that they receive many requests for information from Nigerians. Unfortunately, a good deal of information which Nigerian radio communicates may not be relevant for farmers in Niger. But the potential for reaching a large number of individuals with general agricultural ideas through systematic programming on radio Niger seems great. As yet there is little regular agricultural programming on radio Zinder. They present only occasional discussions with agricultural service officials who happen to be in Zinder. It seems entirely possible to encourage radio Niger to broadcast general ideas about improving millet production which would coincide with the demonstrations. As pointed out above, the reception of these ideas from sources other than the village notables can stimulate villagers to think about what they see going on in the demonstration fields. The only major limitation which the radio presents as a method of broadening the technical information base is that radio auditing is highly correlated with village status, or with involvement in social relationship with village notables. The notables are the most likely to own radios. Their ownership of radios is not exclusive however, and at least some of the message will be received by other farmers.

The exact impact of radio as a vehicle of technological change is not well understood. Even Nigeria, with its vastly greater radio effort has undertaken no systematic village level evaluation. If radio is adopted as a means of reinforcing demonstrations an evaluation program should be planned

E. Organizing Extension-The Special Role of UNCC

The Government of Niger and USAID seem to be agreed that the UNCC will be the key development service in the management of village agricultural change. According to the National Cereals Proposal UNCC would take charge of distributing inputs, organizing demonstrations, providing extension service down to the village level and financing the credit of all input seeds, fertilizers, culture attelae, animals for mixed farming, etc. There are some obvious advantages to working through and strengthening an existing governmental agency, especially one which has wide geographic coverage within the most productive areas of millet culture. But there are a number of serious problems as well and these problems should be considered in proposing the type of assistance which USAID would wish to accord to UNCC to make it a more effective instrument of rural development.

1. UNCC and the current division of Agricultural Extension

Although UNCC is designated as the management agency in the Project 300, its direction extend only to financial operation involving the chief donor - the PDC. All other aspects of management are supposed to be organized in team efforts, with a coordinator selected by the team. The team includes all the relevant development services (Forestry, Agriculture, Cooperatives, Animation, Animal Husbandry, Literacy). Tasks at the operational level are supposed to be organized by functional speciality -- agricultural extension, credit, human motivation, etc. In reality this management system is far from having produced an integrated operation. At all levels from Niamey to the ALC there are signs of conflict between the services, and at the operational level UNCC seems to be playing a smaller role than ever. Routine agricultural extension, and the responsibility for controlling the village extension workers remain the task of the agricultural agents. During the crucial summer months in which the demonstrations are conducted, nearly all UNCC agents at every level, from the Department to the ALC seem to be on vacation. UNCC continues to conceive of its role as being limited to the buying of peanuts in cooperative markets and the extending and collecting of loans. In areas such as Froum, where UNCC is involved in seed loans its agents participate in the distribution and recuperation of seed, but supervision of demonstrations is purely an agricultural service function. UNCC agents also participate in the training of cooperative officials and to some extent of village extension workers.

2. The Reality of Village Cooperatives and of Cooperative Education

For nine years, since the institution of the "New System" of cooperative organization, the UNCC operated on the assumption that the basic unit of its structure was the "village mutual", reflecting in its collective solidarity the traditional social patterns of village people. Today this basic assumption requires re-examination, and this re-examination has substantial implications for the system of peasant extension and credit. In fact the re-examination has been underway for some time, particularly among the Nigerien cadre of Maradi and Zinder, as they have attempted to explain the breakdown of UNCC's credit system, and the mediocre performance of village "representatives." It is by now widely recognized that the UNCC village cooperative structure did not conform with the social structure, at least of Hausa villages, and that the village mutual was perceived by the rural population as an alien, largely imposed institution.

There is also strong evidence that the internal democratic processes of the cooperatives have involved only a relatively few village decision makers while leaving the mass of villagers outside, and largely indifferent and uninformed.

But the most important feature of the "New System" did involve all village producers. It was the decision to make loans on a village-wide basis, with all villagers taking mutual responsibility, and with the guarantee for these loans deriving from the link of credit with dividends from the cooperative marketing of peanuts. In fact loans were made to individuals and there was no effort to promote collective investments. In addition, cooperative encadreurs, instead of working to educate villagers in the functioning of their village cooperative and helping them develop a set of internal sanctions to make collective responsibility function, simply resorted to the expedient of deducting debts from village dividends, without consulting villagers. Within a few years this expedient had resulted in the mounting non-payment of debts, the blockage of credit for even the most elementary agricultural inputs to a large number of villages, and the reluctance of other villages to take out loans and find themselves in the same predicament.

This "new system" was based on a confusion of needs, aspirations, and realities. New system planners thought that to organize economically rational cooperatives they would also have to organize them on the basis of village solidarity. They also believed and hoped that this solidarity corresponded to the true nature of the Hausa community. The reality of the community was not allowed to interfere with their conception. It has by now been amply demonstrated that the Hausa community has very little basis for a collective life, apart from that created by its administrative-political structure of traditional collective activity on a village basis with the exception of those imposed by external authorities. Villagers historically do not hold palavers of all household heads as a characteristic way of taking decisions. This kind of meeting is held almost exclusively at the request of external authorities for the transmission of orders to villagers. Simply put, the cooperative structure of the UNCC was not built upon a socio-economic or political reality, and virtually nothing was done in the way of cooperative education to bring that reality into being.

In 1971 the cooperative structure was reorganized again to establish a village assembly of all men and women and a village mutual council to act as an executive for council decisions. Two village delegates were elected to represent the GMV to the Cooperative.

These decisions have thus far changed nothing. The only real change has been the reduction in the number of representatives which the village has to send off to meetings from 5 to 2. In all cases which I examined these two individuals were the two former delegates most associated with the dominant family in the village. Politics at the Cooperative (old KVA) level have not been modified. They involve essentially the same personalities and the same issues. ALC institutions, which involve a change from the formal participation of the mass of cooperative members to the election of an ALC counsel and executive have just begun. Initially the new system appears to limit participation somewhat numerically as opposed to the previous system. Information on cooperative activity at all levels is of little concern to the average villager and his level of awareness even in the most intensively treated area of the 3M is low.

3. UNCC Credit and the Emerging Realities

As pointed out above, the UNCC was to have encouraged village mutuels to make collective investments in expensive equipment like Culture Attelee, and to take collective responsibility for individual loans of seeds, and fertilizers. But contrary to this principle, the theory and practice of extension, particularly with reference to culture attelee was to place equipment on an individual basis with household heads. The cooperatives, as such never got involved in any self-conscious collective activities, and within a few years after the creation of the new system credits for agricultural inputs came to a virtual halt due to massive bad debts. Even where the agricultural service could stimulate demand for fertilizer and culture attelee, the CNCA (financial agency for UNCC) refused to accord credit. For the past two years, UNCC credit activities have been extremely limited, and accounts of service heads at the county level show an increasing isolation of the UNCC from the other services. ^{1/} In the face of this massive defection from the UNCC, several important ad hoc measures have been taken. In a number of areas the UNCC has expounded the idea that the new system no longer involves collective responsibility in terms of the link to peanut dividends.

^{1/} I base this section on interviews in Matameye and on the reports of the Matameye Animation Service (For example - Monthly Report May 1972)

This step seems essential as villagers were beginning to sell their peanuts at non-cooperative markets or in other cooperative sections in order to avoid the loss of dividends through collective bad debt responsibility. In Saouli ALC farmers actually threatened to withdraw from all further cooperative activity unless something was done about this problem of collective responsibility. The idea that debt responsibility would now be individual was cited by villagers interviewed as the most notable aspect of the cooperative reorganization. Yet it has not been resulted in new credit possibilities. Without dealing with seed loans and fertilizer loans made in association with seed multiplication projects (see below) the UNCC bad debt level in Zinder Department averaged 65% before reduction of dividends and about 50% after loss of dividends from the years 1968-69 to 1971. It is small wonder that since then CNCA has been reluctant to accord new credits.

4. UNCC and Crop Marketing

The major area of UNCC activity and competence since its creation has been the reorganization of peanut and cotton marketing in the rural countryside. In this domain it has produced significant reforms as compared to the old private market system, with farmers involved in the operational aspects of market business, thereby assuring them some additional control over the conditions of marketing their major cash crops. In this regard the system of GMVs has worked well in organizing marketing around common scales and responsible village officials. The UNCC professional staff is most qualified in this marketing operation, and there is every reason to believe that it could do an excellent job of organizing the marketing of surplus millet, and even millet seed (at separate scales for multipliers) in conjunction with the OPVN. It was only when the GMVs became overtaxed by the strains of collective bad debts, that the system of group marketing was placed into question in some villages. Under the system of reorganized credit suggested below, the GMVs could not only function well as marketing mechanisms, but they could have a much more vital participatory structure as many villagers became effectively involved. The key to the rejuvenation of the GMVs however is a combination of a reform of the credit and cooperative extension system.

5. The UNCC and Credit Under the National Cereals Extension Program

✓ Archives of Service de l'Animation au Développement
Monthly Report May, 1972

In order for the UNCC to fulfill a useful role in providing credit for farm inputs on a massive scale it must reorganize its system of credit at the Co-V level.

The UNCC could extend credit to seed multipliers and Farm School Graduates on an individual or work-group basis, using contracted sales as guarantees.

Credits for Culture Attachee or other heavy investments could be considered initially only for multipliers and Farm School Graduates who are under contract.

Credit to demonstrators could be made available initially only on the basis of a mutual guarantee by a seed multiplier, or by the work-group of the village chief. Demonstrators on the other hand could be given an incentive by being assured the payment of a fixed amount of their head tax for faithful performance of their work, whatever the technical results. This would serve as an incentive as well for the town chief to guarantee loans, as his major responsibility and source of income is tax collection. Demonstrators would be expected to sell a percentage of their production which would normally be sufficient to cover their loan and their portion of the taxes. The portion of taxes paid for them is a compensation for demonstrating techniques. (See calculation in Annex 2.)

Other individuals requesting credits for millet technology could be asked to assure a joint^{1/} but not necessarily village-wide^{2/} responsibility for their debts, guaranteed by the sale of a percentage of their harvest. The revenue from this sale could be used directly to pay their debts and tax payments. If one group member failed to raise enough money from the sale of the fixed percentage of his crop to cover his debts, revenue from the sale of the groups production

1/ One way in which this is currently done in a pilot project in Nigeria, is to collect 10% extra from each group member and to apply it if needed to unpaid debts, to redistribute to members or use to help finance future inputs. Discussion with Prof. Harzinger, Institute for Agricultural Research, Ahmadu Bello University on the Lautawa Project.

2/ The notion of sub-village cooperative groups and investment opportunities is discussed in Guy Nicolas, "Processus Mutualistes Contemporaines au sein d'une Societe Africaine". Unpublished, Bordeaux, 1969. Interviews with village farmers in my own investigation show that for seed loans they would be willing to have village-wide groups, but for more expensive credits smaller groups or individual loans are preferred.

would be used. If the group covered its entire debt its members would be entitled to a small tax credit. This system of using a percentage of sales to pay debts and taxes is designed not only to guarantee debts, but to encourage farmers to think about a portion of their millet crop as a cash resource.

Mutually guaranteeing groups would not have to encompass all village farmers, or even all farmers desiring the new inputs. A group could be established on the basis of a minimum number of participants (probably from 5 to 10) but could also be much larger if villagers desired. The presumption here, verified, in village interviews, is that villagers could form groups which could effectively undertake to provide for mutual responsibility if these groups were based on pre-existing ties of kinship, friendship work patterns or clearly understood and consciously chosen common interest.

Mutually guaranteeing groups would be encouraged by the local cooperative agent to save a small percentage of their sales revenue for use as guarantees against bigger investments such as culture attellee.

The credit scheme suggested here is fairly complex and would only work if there were adequate credit and cooperative technical assistance available in the villages. If such assistance were available however, it should work well, because it incorporates the major elements in villager motivation, without making unwarranted assumptions about the social structure.

6. UNCC and Extension Services for the National Cereals Project

Today, the UNCC lacks some of the basic capabilities to manage a major extension program such as the National Cereals Project. We have seen that its major capability both at the mass and cadre level lies in its marketing mechanism. Its experience and competence in field level extension work, both in cooperative and agricultural instruction, is a good deal less than might have been anticipated. For UNCC to undertake the task of village level extension, and for it to reorganize and reinvigorate its credit system, it will be necessary to construct a system of effective local-level penetration. USAID and the Government of Niger have an exceptional opportunity at this time to take the decisions necessary to create that effective extension system during the first few years of the project before actual "intensive demonstrations began.

No single assistance could be of greater significance to the future agricultural development of Niger.

What is needed is the extension of the existing development bureaucracy from the arrondissement and ALC level to the cooperative (a group of 8-12 villages) and village level. This extension would require a sufficiently heavy encadrement to supervise the demonstrators and seed multipliers on the one hand, and to create and supervise the credit system on the other.

The extension system could benefit from the existence of the PIAs in each village, and from one to two AVs for each cooperative. In some cases the AVs positions could rapidly filled by trained graduates of the Centres de Perfectionnement Technique - or young farmer centers, as we have referred to them above. In other cases they could have be aided by the presence of these individuals, often in their same family group. But these village extension workers, as valuable as they could be, could not replace the trained fulltime work of a government cadre. By the same token the cooperative and credit agent could be aided by the rejuvenated GMV with villagers taking some responsibilities for organizing the credit groups and repayment schedule. But again, it is unrealistic to expect this to happen without close professional supervision. To make this system work it would require one agricultural agent and one credit/cooperative agent for each cooperative participating in the scheme. In the first years it is likely that only one of two ALCs would be involved in each arrondissement concerned. Each ALC from 2 to 6 cooperatives. At this level of proposed extension (one agent for approximately 2-5 villages) a significant expansion of the lower level development cadre would be required, highlighting the need for the proposed Centre de Formation Acceleree des Agents de Terrain (former CFJA's).

A second requirement of the proposed extension system is that there be a high level of functional integration between the agents at the planning and implementation levels of the project operation. The question is how this integration ought to be accomplished, and what the UNCC role in the new structure should be. It is equally possible to either build the new extension service within the framework of UNCC by merging cooperative and technical field agents in a single administrative structure, or to create a new administrative structure perhaps called the Rural Development Service which would encompass both UNCC agents and their technical service counterparts. The essential element is that at the operational levels the integration be real, permanent and effective, so that agriculture and cooperative agents could share assignments, plan routine operations, and take joint responsibility for the success of their extension efforts in the village. The administrative solution is a political decision which the CON must take. It can also decide what the appropriate level of integration is -- either integrating only the field levels (from the ALC to the village), or integrating development services all the way from the base to Niamey.

ISSUE 3 - ORGANIZING THE SEED MULTIPLICATION PROGRAM

The National Cereals Project requires that existing selected varieties of millet (such as P3 Kolo), and future selections be multiplied rapidly for distribution through the intensive demonstration system to farmers. To accomplish this, the GON has proposed to establish a central seed stock producing farm, and a series of regional multiplication seed centers, complemented by on-farm seed multiplication.

A. The Seed Centers

The current proposal calls for 15 seed centers - - 3 in each of the participating Departments (Zinder, Maradi, Fosso, Tahoua and Niamey). USAID would help in the financing of 13 of these centers with approximately 5 centers to be opened in the first year of the project. Since I have suggested that the seed centers be made an important part of the demonstration program by being linked with the Centres de Perfectionnement Technique for the training of young farmers and future multipliers I believe that it would be desirable to have one seed center for each participating arrondissement in the five departments. In order to fulfill their role of training and extension, as well as seed growing, these centers could be reduced in scale from 60 to approximately 20 hectares of seed production. The farms would still be approximately 60 hectares farms allowing for other training fields, including intercropping tests, and for pasture for the animals required in culture attellea training. Reduction in the size of the seed operation would make the farm more manageable and less dependent on wage labor, and would also permit more effort to be put into the extension aspects of seed multiplication. The difference in production could be offset by the superior control and training of multipliers. Another advantage of localizing the farms by arrondissement would be the possibilities of raising specialized selected varieties more suited to particular types of climatic and soil variations, and the greater facility of distributing and recovering needs.

It seems reasonable to suggest that the seed centers begin work in one or two ALCs in the arrondissement, and then, while maintaining a percentage of the original multipliers (and perhaps delegating some administrative responsibility to young farmer graduates), it could expand to gradually cover all the ALCs in subsequent years.

B. Designing a local Level Seed Multiplication Program

The major question is posed by the proposed cereals seed Multiplication scheme is how to organize on farm multiplications which are reliably executed, in which the seed harvest is recovered and in which the input credits are repaid. Niger has some experience to offer on this score, but only in the area of peanut seed multiplication. Basically two types of multiplication strategies have been adopted in the past -- the IRHO intensively supervised Plan Semencier, and the UNCC selected seed project through village cooperatives.

1. The IRHO Model

In the Plan Semencier IRHO, a French technical assistance company has contracted with the Ministry of Agriculture to produce a stock of 47-16 peanut seed, using its own methods, and to then turn this seed over to the Agricultural service for mass distribution. The IRHO technique is based on a contract made between the technical service and the individual villager. Villagers are recruited on a voluntary basis with no real reference to their economic or social status; or to their innovativeness. The villager must simply show that he can prepare and assure access to one hectare of land on which peanuts were not previously grown for several years. IRHO agents, one for approximately 50 multipliers, supply all inputs -- seed, fertilizer, tools, seed dressings, and give specific training on the site. Village contractors must conform to all conditions concerning dates of field operations, densities, and the prohibition on intercropping. Seeds are recuperated in totality by IRHO at special scales, and seed and input loans are recovered directly from seed scales. The IRHO model is one of intensive and authoritarian direction in which villagers participate primarily in order to obtain seeds needed to raise cash income which they require for taxes and other expenses. After one relatively successful year in the Mirriah arrondissement (1972), the 1973 drought left IRHO with less than 1/3 of the seed it had distributed and with mounting debts. It is as yet unclear how successful it will be in recovering its seeds and debts in 1974. The implications of its program, however, are significant. It has been able with heavy equipment to control seed production quality and to motivate many farmers to contract the sale of their entire peanut production, even in the face of the prohibition of a farmer preferred agricultural practice. Interviewing a number of IRHO seed multipliers I was also impressed by their understanding of the technical themes, and by their ability to envision the production of millet on the same basis as a commercial side-line to their regular activities.

Sociologically, such a program if successful would have the effect of spreading the gain of new technology to a broad group of villagers as long as the recruitment process remained more or less open.

2. THE UNCC APPROACH

In sharp contrast the UNCC seed multiplication effort is based on the CAV (village cooperative mutual) as the local contract unit. Seeds and seed dressing are distributed through village agricultural representatives (the PLA or AV). Individual farmers are "trained" by these same representatives. All inputs are made available on credit for which the village cooperative mutual is collectively responsible. This includes those farmers who have not participated in the seed multiplication operation. Seed are then recuperated at special cooperative scales where only the selected variety is purchased for a bonus of 10FA a kilogram. Cooperative credits are deducted from the sales with 10% interest. The remaining revenue is distributed to individual producers. Not all villagers participate. Only those who wish to receive seed and fertilizer loans, and who in theory can provide one hectare of land may participate. The only villagers who come in direct contact with the agriculture service personnel are the village representatives whose duty it is to pass on all technical information. In 1973 approximately 1500 multipliers participated in this scheme in the Droum ALC. They were supervised by 10 village extension works (AV) who were trained in periodic sessions in Droum. One hundred and twenty four tons of seed were distributed and thirty-four tons were repurchased. Bad debts for seed and fertilizer ran 90% of total loans. Similar experiences were recorded in Maradi and in Earawa (1970). Very poor rainfall played a major role in the failure of this seed multiplication scheme. However local observers in both Droum¹ and Maradi² determined that the village instructional system had not worked well, that the transmission of information to the multipliers had been grossly inadequate, and the "representivity" of the AVs and PLA was questionable.

My field work revealed still another dimension of the problem of UNCC seed multiplication. In the Droum area, AVs represent local political forces either through their relationship to a powerful village faction or to the administration of ~~chieferie~~ in Droum.

- 1) Arrondissement de Mirriah Coordination Evaluation de la Campagne 1973 by A. Nahadjou, January 25, 1974.
- 2) UNCC. Compte Rendu de la Reunion Tenue a Maradi 23-26/1/74.

Certain villages have access to this influence while others do not. Villagers and individuals in Eroum have chosen up sides, some getting the preferred UNCC loans through their influential personalities and others "settling" for the IRHO loans. Within the village only certain individuals get the UNCC credits, normally those who have a tie of either kinship, clientship or friendship to the PLA or AV. The loan is seen as a proof of the value of the persons position. In this sense the representivity is not poor from a power point of view, but only from the UNCC-Animation perspective of reflecting the will of the whole village.

3. A synthesis

What is required is a combination of the two systems. We have pointed out above that in most cases the AV or Farm School Graduate is appointed by village authorities, and in fact works for the interests of these local influential. This role virtually assures the individual access to resources, a good field, manpower and if necessary financial support, as well as a key position as a farm opinion leader. We should recruit seed multipliers on a priority basis among these people. Of course, this is not a equalitarian method of proceeding, but it more accurately reflects what is currently occurring in the UNCC system and has the advantage of using this unequal development consciously in the spread of technology. If AVs or farm school graduates do not suffice in number or are not available we should select among the PLAs and further among individuals named by the town chiefs. AVs and farm school graduates should be assigned a role in training these new multipliers, and since they themselves are multipliers they will understand the problems. But we cannot expect this system to give good results unless we assure that the seed multipliers involved are closely supervised by agricultural monitors to assure that they use the inputs correctly, and that they respect contract provisions to resell their crop. If seed farms are organized on arrondissement levels and work with one or two ALC at a time, the seed multiplication staff required would be one agricultural agent per cooperative (5-10 villages) teamed with one cooperative and credit agent. These agents would be able to run both multiplication and demonstration programs with adequate levels of control at this level of staffing.

The contracts for seed multipliers could be made either with individuals (in the case of farm graduates and AVs) or with their work-groups. Contracts would assure timely delivery of all needed inputs on credit. These inputs would be paid for directly from millet sales. The seed farmer would be expected to sell back all of production except for a small quantity of seed which he could keep for use on his farm, or on the work-group in the case of a joint farm group.

The remainder of his sales would be applied directly to his tax requirements. (See Annex 2). The surface cultivated would be computed on estimated acreage required to cover loans and taxes. In the event of a crop failure after verification of proper technical performance and delivery of the crop as contracted, the farmer would receive a tax credit. The idea of linking millet sales to tax payments is designed to motivate farmers to sell their crop as a major concern of all villagers is to be free of worry about their taxes. It is also designed to get farmers to think about a portion of their millet production as a cash resource. It is entirely possible to have an option in the multiplication plan whereby farmers would receive cash instead of direct tax payments (as some farmers are not responsible for paying their own taxes).

Issue 4 Selling

I have suggested in the above analysis that it is necessary to motivate farmers to begin thinking of their cereal crop as a potential cash crop. It is, of course, true that farmers already sell and exchange considerable quantities of millet and sorghum and the problem of motivating farmers is less severe in the Central and Western parts of Niger where the peanut is a much less important crop than in the Eastern part of the country. In Eastern Niger millet is sold principally as a means of short-term liquidity in time of need. My survey of farmers during the drought year of 1974 indicates that the poorest farmers sold the most millet, even though they then have to reproduce much of it later at higher prices. The most affluent farmers sold no millet, despite the strong price signals. These elements of information indicate that although millet is sold, it is not widely considered as a cash crop. In addition, following several years of severe drought, family millet stocks are so depleted that farmers have expressed a strong preference for storing grain, rather than selling it, even at hypothetically very strong prices. Many farmers believe that their real security lies in reconstituting a two year supply to ride out a future drought period.

✓ Thing finding runs contrary to the general conclusions of the Macomer study, "Etude d'Une Campagne de Vulgarisation de Masse Pour l'Amelioration des Techniques Culturelles de l'Agriculture Nigerienne, Paris, Aug, 1973, p24. It should be pointed out however that Macomer did not ask people whether they considered millet as a cash crop, or whether they grew millet for sale but if you sell (millet) on the market do you get a good profit?", p29. Given the inflated market surrounding the period of this study the response is not surprising. I found however, that people put millet

Given this perspective it may be a significant problem to design a system for the reliable supply of millet, and even for the seed farming of millet. The solution which I have proposed is to begin selected millet farming on a small scale with a target revenue objective for sales. The target I have selected is tax payments, because this seems to be the cash need of greatest concern. However it would be equally possible to offer such targets as sewing machines, radios, bicycles or cloth material in the early phases of the operation. The essential point is to motivate the seed farmer, and then the demonstrator-input user to devote at least a small portion of his millet farm to cash cropping. Initially, the problem concerns only the seed multipliers and the demonstrators as far as the payment of their production inputs are concerned. But if we really succeed in producing a millet surplus after several years of farmer replenishment of stocks, it will be important to assure a marketing mechanism and a steady supply. It is probable that when the surplus is created target objectives will no longer be required although they might still be useful in the equipping of local communities with much needed infrastructure. At that time pure price signals for millet might play a determinative role.

Issue 5 Evaluating the Impact of the Project

It is desirable to develop information evaluating the capability of Niger in rural development matters. USAID has a major opportunity to contribute, not only to the success of this project through a continued evaluation and feedback process, but to the building of an ongoing capability which is currently very deficient. The recommended evaluation program has four distinct steps. First, it involves the preparation of a complete development bibliography for Niger to serve as a central research and planning archive. This documentation would be synthesized in a series of simple summary papers which would be used as training materials for policy level and implementation level Nigerien development cadre. It would also serve to identify key areas of research need. Expatriate African graduate students including Africans from Dakar and Abidjan universities, could be offered the opportunity to work on areas of priority research. This research would be discussed with the development cadre in several stages of its preparation. A third aspect of the evaluation program would involve the on-going evaluation of project impact in several villages. These evaluations should be organized in cooperation between Nigerien research institutions (CNRSH and the Bureau d'Etude et d'Evaluation of the UNCC) and foreign scholars. Short term missions of several months in each of three or four years coupled with an ongoing program on data collection by enquêteurs should be adequate to detail the impact of the program.

This research should result in an annual review of project operations, hypotheses and organizational structures.

Finally, annual training and evaluation sessions should be established for the Nigerian cadre involved in the project. These sessions should produce an exchange of research and field implementation experience, and some concrete proposals for new research and for modifications in project implementation. They should also serve to inform the Nigerian cadre of the research findings, including the review of similar or past project experiences synthesized by the documental collection. This should lead to a training program in project record keeping and documented group evaluation of results.

ANNEX I Political and Administrative Issues in a Context of Change

There are several crucial issues whose resolution will very much influence the success or failure of the National Cereals Project. Since the change in the government of Niger the development cadres seem to be waiting to see how these decisions will be resolved. It is widely recognized that each concerns a problem of long standing, and therefore that these decisions will not be easy to make. But the cadres are hopeful that facilitating decisions will soon be forthcoming.

1. The Status of the Cooperative Movement in Rural Development.

Since 1971 the status of cooperatives as legal actors in the Nigerian development system has been posed. A detailed loi-project exists to define the structure which would put cooperatives on a basis of partners in a dialogue with the development services. No action has been taken. This has presented major problems in the development of the UNCC¹ movement at the grassroots. The proposals which I have made for the re-examination of the "village" cooperative pose another order of problem, which should also be considered in the action on this law. But it seems due time that the cooperatives obtain a clear legal status and that a definite cooperative policy is announced by the government.

2. The Role of Participation in Development and of Animation Rural.

Since 1968 the strategy of global development involving the active participation of the peasant mass in its own development has been more verbiage than reality. The organizations for villager inputs into planning and meaningful decision making have simply not functioned. Participation has come to mean the involvement of villagers in policy financing and execution in order to lighten the administrative load. Participation has too often also been used as a substitute rather than a source of effective penetration of the village level. Administrative information on village level realities is no better and is possibly worse than it was five years ago. Participation, via Rural Animation may not be the answer for Niger. It may not be the answer either to more effective information systems or to better promotion of modernization. But a definite solution is required as to how penetration should be accomplished and what the real role of participation should be.

¹ UNCC, Bureau de la Cooperation, Marcel Lanclin in Elements pour une Organisation de Secteur Cooperatif et Mutualiste, Niamey 1971

At this point the Animation Service has many interesting and education programs, particularly in the areas of health and the involvement of women in the economy. But its agents particularly its male agents are too far removed from the village level to effect real, sustained change. It may be that by involving animation agents directly in the productivity programs as local level agents they could help to accomplish what has yet to be done with three administrative re-organizations of the UNCC - achieve functioning local level, and local association cooperative.

3. The Relationship Between Various Services in Rural Development.

There is a widely shared view repeated from Niamey to the arrondissement level, that something must be done about the structure of organization and accountability in rural development. Planning has become virtually impossible. Virtually no collective memory or responsibility exists for the operation of various programs despite their formulation in "integrated teams". At the operational level there is far too much inter-service and inter-personnel rivalry to promote a coherent rural development package. Some services like Elevage, and Faux et Forêts, have virtually no village outreach while others with more resources have yet to really penetrate the village level. Most Nigeriens are simply not benefiting from this structure. In the context of the Cereals Project, it has been proposed that UNCC take major responsibility for managing the extension. There would be no problem with this suggestion if it implied that UNCC were to absorb regular agricultural agents and make them accountable to a single direction. Under present structures UNCC cannot be expected to develop a satisfactory operational level program with Agriculture and Elevage if it can not direct the personnel of these services. What is needed is the creation of a Rural Development Ministry in which the various services would be available for truly joint work at the operational level, in which they would maintain a single archive, a single set of administrative services and a single concept of development.

Three forms of organization are possible. The first would integrate the services at all levels from Niamey to the Cooperative. All agents would be working for the same service. They would be divided into functional divisions and these functional agents would be found in different mixtures at different levels, depending on the nature of their project. A second organizational plan would maintain separate services in Niamey with a Regional Development Service in each area with special productivity projects.

For the field agents very little would change; they would still be employees of a single service. But relationships between these regional agencies and the separate national services might be difficult to define. A third solution would be to maintain service autonomy to the arrondissement level, and to create Rural Development Groups at the ALC and Co-operative levels. This solution retains the advantage of coordinated action on the ground, but the possibilities for conflicts in the interests of the individual field agents whose immediate superiors would be different is great. Still, any of these alternatives is better than the present system, and a reorganization is badly needed.

Suggested Design For Staffing A ALC Level Rural Development Group

National Rural Development Agency

Departmental Rural Development Agency

Arrondissement Rural Development Agency

Association Locales des Cooperative.
Rural Development Group

Training Specialist	Credit & Cooperative Organization	Marketing 1 Agent	Extension (Agricult)	Health Programs
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Forestation and Elcvage

Cooperative level
1 Agent per coop

Seed Farm
1 per seed farm

Cooperative
1 per coop
2 AV per coop

5 - 10 villages

1 PEA per village
1 Agri Agent
for 5-10 villages