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Social Soundness Analysis of the Niamey Department

Development Project (Niger Republic)

(Evaluation of Phase I; Recommendations for Phase II)

Part I:

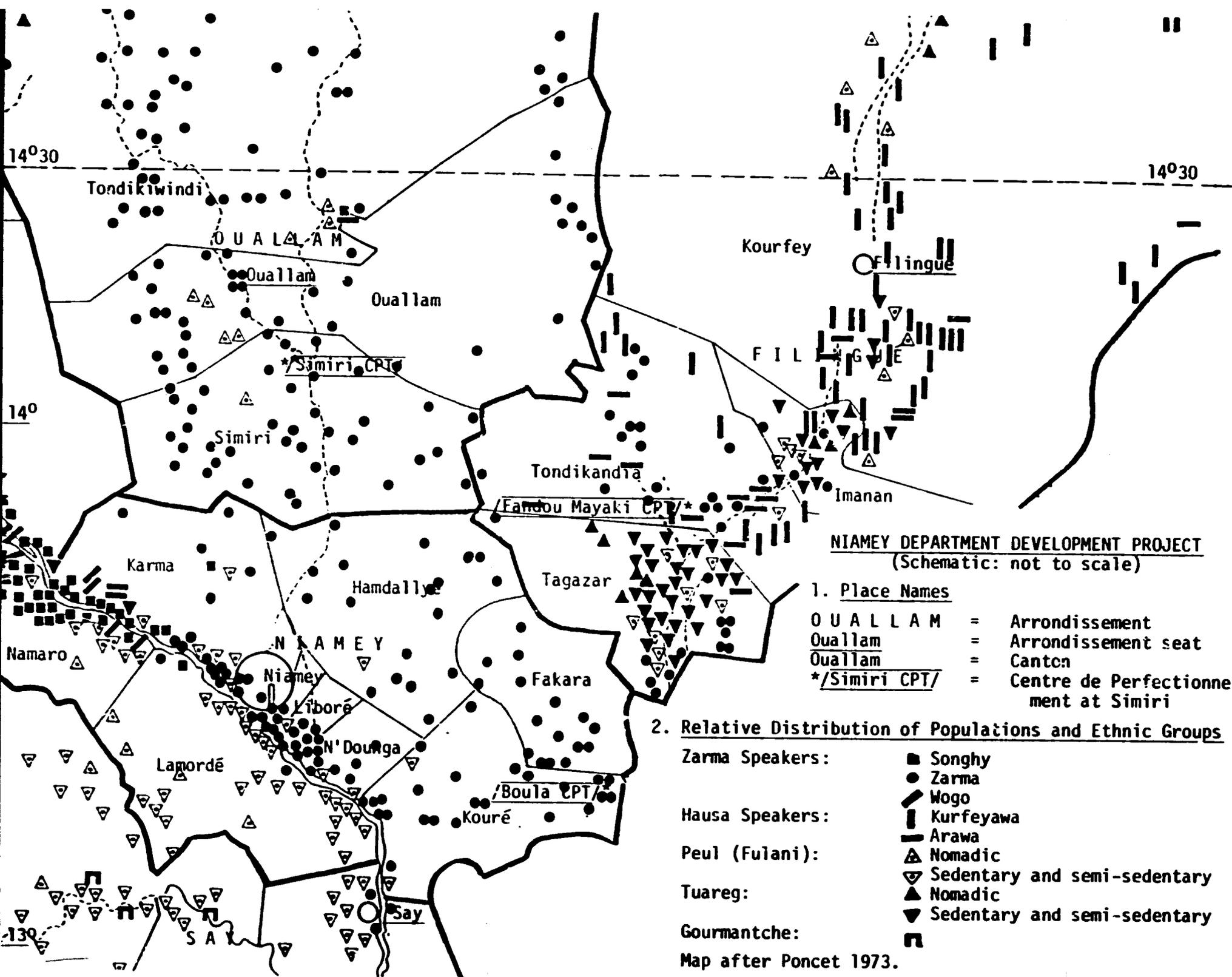
Overview of the Area and Populations within
Project Zones; Analysis¹

by

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NIAMEY DEPARTMENT DEVELOPMENT PROJECT
(Schematic: not to scale)

1. Place Names

- O U A L L A M** = Arrondissement
- Ouallam** = Arrondissement seat
- Ouallam** = Canton
- */Simiri CPT/** = Centre de Perfectionnement at Simiri

2. Relative Distribution of Populations and Ethnic Groups

- Zarma Speakers:**
 - Songhy
 - Zarma
 - ▨ Wogo
- Hausa Speakers:**
 - ▨ Kurfeyawa
 - ▨ Arawa
- Peul (Fulani):**
 - △ Nomadic
 - ▽ Sedentary and semi-sedentary
- Tuareg:**
 - ▲ Nomadic
 - ▼ Sedentary and semi-sedentary
- Gourmantche:**
 -

Map after Poncet 1973.

A - Overview of the Area and Populations within Project Zones

During the first three years (Phase I) of operation, the Niamey Department Development Project (NDD, or Project) promoted a variety of development interventions in three of the Niamey Department's six arrondissements -- Niamey, Ouallam and Filingue (see map). In all cases, NDD activities were conceived with a view toward increasing productivity levels of staple food (principally millets, sorghums and cowpeas) and some cash-crop (cowpeas) production in order to promote GON's national priority of greater food self-sufficiency. During the second phase of the Project, operations will be introduced on a limited scale in a fourth arrondissement -- Say. Phase II will see NDD operating in four arrondissements whose combined surface areas (66,719 km²) account for about 74% of the Department's total land area of 90,000 km² (Bilan Departemental, 1978, Vol. I, p. 17).

In practice, NDD operations are more limited in scope. In the Ouallam and Filingue arrondissements, they have been confined to areas below the 14°30 parallel (see map). Areas to the north of this limit, roughly coterminous with the 350/400 mm isohyet, are considered too marginal for rainfed agriculture (Op. cit., Vol. IV, p. 1). Within the Niamey arrondissement, only the Koure, Fakara and Hamdallye cantons, and those areas in the Karma canton five kilometers to the east of the Niger River have been included in NDD operations.

¹ Part II of the Social Soundness Analysis Appendix, prepared by Dr. Frances Stier, REDSO/W Anthropologist, and entitled "Agricultural Techniques," follows Part I, and provides information on regional variations in agricultural production which are not detailed in Part I. These variations are of substantial importance to agricultural development projects such as NDD which promote intensification of production for, as Dr. Stier notes, "the local situation determines whether or not land is locally scarce and whether or not people will be willing to intensify" (personal communication).

My thanks to Dr. Stier, who spent several weeks with the Project Preparation team and contributed to the development of the Social Soundness Analysis in numerous ways. She participated in all field trips, provided a valuable reading and summary of much available ethnographic material concerning Project zones, and in addition, provided the PP team with analyses of Nigerien census and Agricultural Statistics Service data at a time when I was engaged in an evaluation of NDD adult literacy and cooperative training programs. Finally, Dr. Stier critically read, helpfully pointed out several errors, and suggested possible changes in the first draft of the Social Soundness analysis. Dr. Stier's work will be frequently cited in Part I and in several instances the reader will be referred directly to her materials. In all cases, responsibility for errors of fact and interpretation in the text of the Social Soundness Analysis (Part I) are mine and not Dr. Stier's, despite the occasional use of the editorial "we."

Given these considerations, it may be estimated that the areas within NDD's purview account for substantially less than the 74% cited above. NDD has, nonetheless, been active in all or part of eleven of the eighteen cantons that make up the Niamey, Ouallam, and Filingue arrondissements (Table I) and NDD zones contain a considerable portion of the Department's total population -- amounting in this case to roughly a third (an est. 400,000 of the c.1,221,790 listed in the 1978 Bilan Departemental, Vol. IV, p. 1).

1. Rainfall patterns in the Niamey Department and Project Zones

Rainfall distribution varies considerably in the different Project zones, from about 350 mm per year in the northern regions (toward Ouallam) to about 500 mm in the south (toward Say). It should be noted that in addition to the expected gradient of diminishing precipitation which occurs as we move northward from the 13° parallel, there has been a significant southward shift of the 400 mm isohyet since the mid-1960s so that overall, the region containing Project zones was receiving less rainfall through 1976 than had been true earlier. Until about 1966 the 400 mm isohyet was located north of the 14°30' parallel; during the period 1966-1976, it moved southward to almost 14°. Estimates of the distance involved in the shift vary. Maps contained in the 1978 Bilan Departemental suggest a southward movement of 50 to 70 kms; drawing from Sidikou's (1974) materials, Stier notes that between 1960 and 1977 the 300 mm and 400 mm isohyets moved from 100 to 120 km south (p. 16). Farther south in the Department, the 600 mm isohyets formed an arc which cut through the Niamey canton at about the level of the capital in 1966 but has since dropped well below Say. Rainfall measurements from several observation stations in the Department provide a more complete indication of the changes involved (see Table 2).

Within these longer-term rainfall averages it is necessary to distinguish more recent developments -- since 1974. During 1975 and 1976 average rainfall improved considerably, but the largest increases were recorded in regions south of the 14° parallel. For regions to the north of this line (e.g., stations at Ouallam and Filingue), rainfall deficits continued until very recently (i.e., have remained below pre-1968 levels; see the Bilan Departemental, Vol. II, p. 2 and Table 2). It is noteworthy that very roughly one half of NDD operational zones lie north of the 14° parallel, i.e., in those areas where rainfall has remained somewhat marginal.

2. Distribution and Socio-Economic Characteristics of Populations within Project Zones

a.) Niamey and Ouallam Arrondissements

(i) Distribution of Populations

Much like rainfall distribution, the distribution of human populations within NDD zones roughly follows a north-south gradient, with population densities decreasing as we move from the southern regions of the Department (e.g.,

TABLE 1

Population Size, Surface Areas and Population Densities in the Niamey Department, Arrondissements and Cantons Affected by NDD Operations

Arrondissement	Canton	Total Populations	Number Of Villages	Surface Area (km ²)	Population Density
Niamey	Karma	42,050	41	1,430	29.4
	Hamdallye	13,355	43	1,549	8.6
	Koure	21,566	49	1,500	14.4
	Fakara	10,390	34	860	12.1
	Total - Project Zone	87,361	167	5,339	-
Total - Arrondissement		156,625	262	8,219	18.6
Ouallam	Simiri	36,323	66	2,724	13.3
	Ouallam	51,162	81	4,658	11.0
	Tondikiwindi	45,468	73	8,350*	5.5
	Total - Project Zone	132,953	220	15,732	-
Total - Arrondissement		154,362	243	22,132	7.0
Filingue	Tagazar	58,596	103	1,420	41.3
	Tondikandia	45,818	65	2,710	16.9
	Imanan	18,911	30	510	37.1
	Kourfey (Filingue)	71,665	81	9,900	7.2
	Total - Project Zone	194,990	279	14,450	-
Total - Arrondissement		232,015	320	24,420	9.5
Say (Project zone not yet determined)					
Total Arrondissement		74,855	218	11,943	6.3
Total for the Niamey Department		1,221,790	1,334	90,074	13.6

* Portion of the Tondikiwindi canton within the NDD zone is approximately 2,783 km².

Source: Bilan Departemental, Niamey, 1978, Vol. IV, pp. 4.2.2, 4.2.3, 4.2.4, and 4.2.6.

Table 2

Rainfall recorded at selected stations in the Niamey
Department: Averages through 1966, and for
1967 - 1976

Station	Annual Average/Rainfall (mm)		Percentage of years during 1967-1976 period with less than 400 mm
	Through 1966	1967-1976	
Mangaize ^{a,1}	385.9	308.6	100%
Ouallam ^b	539.0	367.1	90%
Toukounous ^{a,2}	437.5	325.8	80%
Filingue ^b	519.4	335.1	90%
Niamey (city) ^a	594.1	561.7	20%
Niamey (airport) ^a	609.0	547.8	10%
Kolo ^{a,3}	611.1	553.1	10%
Say ^c	694.4	545.8	20%

Source: Bilan Departemental, Niamey, 1978, Vol. V, Map 5.

^a Stations outside NDD zones

^b Stations within NDD zones

^c Portions of the Say arrondissement will be included in
NDD zones during Phase II

¹ Located about 60 km north of Ouallam.

² Located about 40 km north of Filingue.

³ Located about 10 km south of Niamey.

the Tagazar canton of the Filingue arrondissement, where the average density is 41.3 persons per km²; see Table 1) to the northern areas of the Department (e.g., the Tondikiwindi canton in the Ouallam arrondissement, having an average population density of 5.5 persons per km²). Of course, the gradient is not an even one as we will see, and a variety of factors affect population settlements; among them, soil quality, availability of ground water, etc.

In the Niamey arrondissement, population densities in the Karma canton exceed those of the arrondissement as a whole (18.6 persons per km²) by one third and are almost three times greater than the average for the Department (11.2 persons per km²). In large part, this reflects high densities along the Niger River in areas outside NDD zones. Within the Project zones of the Niamey arrondissement, population densities are greater in the northern part of the Karma canton, and attain 50 persons per km² in the northwestern Hamdallye, southern Fakara and eastern Koure cantons. In most cases, these greater densities are associated with proximity to marshlands and ponds (mares) or low-lying areas (bas-fonds) with relatively shallow water tables (Republique du Niger 1978: Population Map). The Project's Centre de Perfectionnement Technique (CPT) at Boula is located in one of these relatively more populated areas in the extreme southeast corner of the arrondissement (see map).

In the Ouallam arrondissement, both the Simiri and Ouallam cantons have higher than average population densities. In part this is a function of their relatively small size when compared with the Tondikiwindi canton to the north. More importantly, these higher densities are associated with more concentrated settlements in valley areas having relatively shallow water tables which run in a north-west, south-east direction and to a certain extent, in a north-east, south-west direction (Ibid.). These valley areas in the Simiri and Ouallam cantons, in some cases interconnected and totalling more than thirty kms in length, contain low-lying areas, temporary and several permanent marsh/pond areas (Republique du Niger 1978; Vol. V, Map 5.2, and Stier, p. 27). Here, population densities may exceed 50 persons per km² and in some cases may reach 80 persons per km². The higher density zones have two principle focal points: the town of Ouallam (the arrondissement seat), and a cluster of villages about 20 km to the south of Ouallam. The second Project CPT - Simiri - is located just south of these higher density areas (see map). The remainder of the Ouallam arrondissement is relatively sparsely populated (5 - 7 persons per km²).

(ii) Ethnic Composition and Some Salient Features of Social Organization and Agricultural Production

The ethnic composition of NDD zones within the Niamey and Ouallam arrondissements is overwhelmingly Zarma (see map) and for this reason they will be discussed together. We were unable to obtain details on religious affiliation in Project zones, but we may assume that Islam predominates throughout the three arrondissements in which NDD operations occur. There is some question, however, concerning the depth of the Islamic religion's effects on local societies whose traditions are animist² and in the southern part of the Filingue arrondissement,

² Goldmark, on the basis of conversations with Yveline Poncet (1977:8); see also Diarra 1971:109-154.

even this Islamic overlay is absent among Arawa populations (Stier: 6).

Data are not presently available on educational levels among populations in Project zones, but estimated percentages of primary school age children actually enrolled in primary schools are low: 10%, 14% and 14% for the Ouallam, Filingue, and Niamey arrondissements respectively (Bilan Departemental, Niamey, 1978, Vol. IV, p. 4.7.1). Given the limited access of most rural populations to public schools and the even more restricted scope of national language literacy programs for adults, an estimate of 5% literacy in rural areas of the department is very generous. It is noteworthy that estimates of national language literacy, however low, apply solely to men, for women in Project zones currently have no access to literacy programs outside the Project-sponsored CPTs (see evaluation of NDD adult literacy programs).

In addition to the above-mentioned Zarmaphone predominance, other ethnic groups are found in both arrondissements. Some sedentary and semi-sedentary Fulani are located in the southern portions of the Niamey arrondissement, and slightly southwest and to the north of Ouallam, while Hausaphone Arawa groups are found toward the center of the Ouallam arrondissement (see map). The Fulani presence in both cases is related to the presence of marshes and ponds which serve as water sources for their animals.

The Zarmaphone peoples of the two arrondissements are agriculturalists -- peasant cultivators. In the vast majority of cases, the staples of agricultural production are millets, sorghums and cowpeas. Varieties of each are planted, reflecting the influence of selected seed variety promotion programs conducted by GON (The Agriculture Service and INRAN), NDD, and a long history among peasant producers of careful seed selection on the basis of numerous criteria: responsiveness to soil conditions, length of maturation cycle, etc. Agricultural production in Project zones may be considered schematically in terms of five "focal points": household gardens, in-fields, outfields, low-land and marshy areas, and finally, livestock. Local practice with reference to each varies considerably, as Stier's discussion in Part II shows.

In addition to the distinctions suggested above among various "focal points" of production in the Niamey and Ouallam arrondissements, Zarma peasants in Project zones make distinctions concerning the social organization of production, the nature of the relationship between the producer and the means of production, and, finally, the product. Thus collective fields (windi faré) are distinguished from individual plots (Kcurga).

While variations certainly exist, the theme is roughly as follows. Collective fields are managed by the windi koy, head of household -- but more to the point, this individual (a male) is the head of an agricultural production unit -- as collective patrimony, often linked to the founder of a given village or hamlet, i.e., the first person to effectively use the lands in question. On the basis of these initial use claims, continuing rights of prior claims are established by virtue of blood or other alliance links. In addition, permission to use land may be obtained by outsiders on a variety of terms. These collec-

tively-owned fields, managed by the eldest male in the line, are worked by all productive members as directed by him. The resultant produce is appropriated by the head of the production unit, is stored, and redistributed as necessary to the various members.³ Production relations of this kind have been characterized as "dependent" (goo bande); junior members are "behind" the authority of the senior member.⁴ In addition to collective fields, individual plots may be allocated to household members by the household head. Recipients may cultivate these plots as they wish and do as they like with the product; i.e., store it for personal consumption, and/or sell it as a source of revenue. The stability of this individual tenure is not clear (see Stier: 28) and deserves additional study, particularly in connection with the interventions proposed for Phase II of the NDD as a means of increasing women's access to agricultural credit and inputs (cf. Painter 1979: 12-15). Women may be ill-inclined to increase present levels of investment in borrowed plots unless there is some assurance that they will retain access to the plot for more than one season (Ibid.). Similar constraints may affect young men -- married (as is the case of CPT trainees) or not (as is more frequently the case with CFJA* trainees) -- who are being trained by GON and NDD in improved techniques of agricultural production and equipped -- on credit -- with a combination of relatively expensive animal-drawn cultivating equipment (see Section B.2.a below). In the case of CFJA trainees, difficulties continue to be encountered once they return home and attempt to apply the new techniques on fields owned and managed by their fathers (see Section B.2.b below). Given their lack of authority within the production unit (i.e., their relation of dependence -- goo bande), they occasionally discover that they are not permitted to use the equipment (Pradier 1979a:41-42; 1979b; 1980a:10). As a consequence, some hire it out to others having money and land enough to make it worth their while. Another strategy, even less productive in the desired sense, involves outright sale of the equipment in order to obtain cash the trainees need.⁵

³ It is important to re-emphasize that this characterization masks considerable diversity, as Olivier de Sardin (personal communication) and Part II of the Social Soundness Analysis by Stier suggest. Second, however tempting, we must be very cautious about drawing parallels between the windi fari / kourga distinction made by Zarmaphone peoples of Western Niger and the gandu / gamana distinction made by Hausaphone peoples to the east. Third and finally, in addition to being complex in their specific features, these forms are in a state of flux, i.e., are breaking down (Olivier de Sardin; ethnographic materials on the Hausa of Niger are replete with arguments of this kind). This gradual erosion of collective ("traditional") forms of productive and redistributive organization affects all of Niger's peasantries.

⁴ Thanks to M. Ouattara Mahamadou of the Institut de Recherche en Sciences Humaines, Niamey for stressing this point.

⁵ Instances of equipment sales were not recorded during our stay in Niger, but they are known to have occurred among CFJA trainees in the Maradi region in southern central Niger. The motives are predictable: the need for cash.

* "Young Farmers Training Center"

It is important to note that women play an important role in livestock production as well as crop production. Frequently, but not invariably, this involves small livestock and fowl. Livestock provides women with practically the only interest-bearing investment outlet for incomes resulting from the sale of their agricultural and artisanal (e.g., straw mats) production (cf. Diarra 1971: 104). Thus it is possible for women to gradually build up their small livestock holdings, to sell them and to purchase a calf or two (Ibid.:104-108). Purchase of livestock may afford them a more secure investment than is presently possible with land allotted for their use by their husbands (above) or other male members of the village community (see Stier: 17). Men are also involved in livestock production, and their animals, usually larger, may be confided to pastoral Fulani for care.

b.) Filingue Arrondissement

(i) Distribution of Populations

Population densities in the Filingue arrondissement vary considerably: from five persons per km², particularly in the northern regions -- beyond the boundary of the Project zone, to very heavy settlements in the south of the arrondissement. These distributions very closely follow the outlines of a large valley (the Dallol Bosso or Dallol Boboye) and its two smaller branches which traverse the arrondissement diagonally in northwesterly and northeasterly directions from the bifurcation located just north of the town of Balayara (see map; cf. Beauvilain 1977: map B and Republique du Niger 1978: Population Map). These Dallols (Dallol being the Fulani word for valley) are the remains of long-extinct surface affluents of the Niger River, having their northernmost origins in the Azaouak valley system of south-eastern Mali and north-western Niger. Relative to the plateau on either side, the Dallols are favored areas for settlement in the Filingue arrondissement and in the Dosso Department to the south (see map). Dallol-type soils contain more loam, and in many places the water table is no more than three to five meters below the surface; in some areas it is less than one meter deep, the result of a continual, now subterranean flow from the basins far to the north toward eventual confluence with the Niger River. Not surprisingly, settlement in these dry river valleys is substantially denser than on the plateaus where the soil is not as rich and where the water table depth varies from twenty to sixty meters. Population densities are particularly high south of the town of Filingue on through the Imanan canton (where the average density is 37.1 persons per km²), and toward Balayara near the southern-most limit of the arrondissement (the Tagazar canton where average densities of 41 persons per km² are recorded). Population densities along the course of the Dallols easily exceed 50 persons per km² and available cultivable land is in very short supply. Under these conditions, fallows are extremely short if not non-existent; the continuous working of even manured fields over long periods has contributed to a serious depletion of soil quality in much of the area. This will be discussed in greater detail shortly. The NDD's third CPT, Fandou Mayaki, is located to the northwest of the point in the Dallol Bosso where it branches into the two smaller valleys mentioned above (see map).

(ii) Ethnic Composition and Some Salient Features of Social Organization and Agricultural Production

The ethnic composition of the more populated areas of the Filingue arrondissement is much more diverse than that we observe in most of the Ouallam and Niamey arrondissements to the west⁶. Hausaphone Kurfeyawa are found in the Kourfey canton north and south of the town of Filingue, particularly along the course of the Dallol (see map and Stier: 6). In addition, some nomadic Fulani are found in this area, and south of Filingue we find larger numbers of Hausaphone Arawa. These become particularly numerous in the Tondikandia canton. As a whole, however, the predominant group in settled areas north of the Tagazar canton are Hausaphone Kurfeyawa (see map). These Hausaphone groups -- both the Arawa and the Kurfeyawa -- are referred to locally as "Mawri," although it must be noted that Zarmaphone Arawa and Mawri are also found in the area (Stier:6).

Continuing southward along the northeastern branch of the Dallol Bosso, we find greater numbers of nomadic, and particularly sedentary and semi-sedentary Fulani and Taureg (many of whom are Zarmaphone; Stier: 7) and Zarmaphone Mawri. Populations of Kurfeyawa and Arawa are once again more numerous south of the village of Bankoukou in the Tondikandia canton. Finally, in the southernmost region of the arrondissement (the Tagazar canton), substantial numbers of sedentary and semi-sedentary Fulani and Taureg and Zarmaphone Mawri are found.

Along the smaller northwestern branch of the Dallol Bosso, the location of the Fandou Mayaki CPT, Zarma and Hausaphone Arawa predominate, giving way to greater numbers of Kurfeyawa in the north (see map).

In some respects agricultural practice in the Filingue Project zones resembles those in the two arrondissements to the west. There are important differences, however, and these are discussed by Stier in Part II.

B - Analysis

1. Overview of Project Beneficiaries

The evolving structure of the NDD conforms to current attempts by GON within the several departments of the Niger Republic to increase levels of rain-fed agricultural productivity, hence to promote greater regional and national food self-sufficiency. Through the operations of ten CPTs during Phase II, the Project will train an estimated 600 peasant couples in improved cultivation techniques. In addition, these couples will be trained in numeracy and national language literacy, will be exposed to a number of other agricultural innovations, and will receive an orientation to the principles and utility of cooperative organization in rural areas. The CPT peasant couples are the primary beneficiaries of the NDD.

⁶ What is true of the Niamey arrondissement does not apply to the riverine areas outside NDD zones. There, mixtures of Songhy, Zarma, Wogo, Kourtey, and sedentary and semi-sedentary Fulani are found (see map).

Second, it is anticipated that as many as 6,000 peasant producers in the Project zone will be exposed to the advantages of the new agricultural techniques during Phase II through a combination of demonstration effects (on the basis of differences between observed yields obtained by CPT graduates using the recommended techniques and yields on "traditional" fields) and the reinforced extension program which will be included in the Phase II project structure. Through the extension system, much larger numbers of peasant producers in Project zones will be exposed to and given the opportunity to gain access to the techniques being promoted by the Project. These individuals may be considered as "secondary" beneficiaries.

Third, thanks to project financial support, an estimated 2,800 cooperative officers will be elected and trained by the UNCC (with support from Project training programs; see below) during Phase II. In a sense, these too are secondary beneficiaries.

Fourth, additional categories of beneficiaries will consist of men and women who will attend a small number of experimental education centers (Continuing Education Centers, or CECs) in rural areas where a variety of learning activities will be supported by the Project. As many as 45 CECs will be established for men during Phase II, and will involve as many as 2,700 adults. Basic CEC training themes will include numeracy, national language literacy, and cooperative education, but the curriculum of the CECs will remain sufficiently flexible as to include a wide variety of possibilities on the basis of interests at the various Center locations (see Evaluation of NDD adult literacy programs). In addition, a maximum of twenty CECs will be set up for women (the first such rural centers in the Niamey Department), and as many as 590 women will benefit from courses in literacy, and as importantly, a variety of other subjects to be designed through collaboration among Project training staff, the Project's coordinator of women's activities, the National Literacy Service and other GON services (in particular, Animation Rurale). Among possible topics to be included are health and health related themes, possible improvement in women's rainy-season and dry-season crop cultivation, hand-sewing, etc. Once again the curriculum will be structured but will respond insofar as possible to local interests and local conditions rather than follow a centrally-designed lesson program. The estimated number of men's and women's CECs should be considered as maxima. The actual number and progression of CECs during Phase II will depend entirely upon evidence of strong local interest, relative success, and the results of careful follow-up and evaluation.

A special fund will be allocated solely for the use of women in order to facilitate their direct access to agricultural credit which is presently unavailable due to the structure of membership in rural cooperatives (limited to male heads-of-households). Thus, in addition to receiving support for learning activities in rural areas (CECs), women in Project zones will have the option of enhanced direct access to credit for purposes of, e.g., investment in small live-stock, improved cultivation techniques on rainy-season and dry-season plots, etc. These interventions are detailed in a separate section devoted to women's activities in NDD.

Finally, the altered Project management structure, combined with the infrastructural support which began during Phase I (construction of cooperative warehouses, CPTs, bureaus for some GON services, etc.) will provide greater institutional support for the range of training, extension, and follow-up activities envisioned for Phase II. In large part this will occur through greater coordination of GON line services within Project zones.

Overall, the activities proposed for Phase II of the NDD are judged to be acceptable from a socio-cultural view point. We are of the opinion, however, that a number of issues deserve particular attention during Phase II of the Project if NDD is to (a) maintain an acceptable socio-cultural and economic profile vis-a-vis the rural milieu in which it operates, (b) strengthen the institutions found therein, and (c) optimize the potential for "spread effect" among Project zone populations. We feel that attention to these points will do more than merely enhance the Project's social-cultural feasibility; it will increase its capacity to achieve its stated purposes, and move toward its specified goals. This will be possible through more effective training programs and greater responsiveness to the socio-economic and cultural features of the Project zones as summarized in Section A above and Part II. Grosso modo, these issues include the following: (1) appropriateness of NDD's technical package; (2) selection of CPT trainees; (3) structure of CPT training; (4) choice of CPT locations; (5) cooperative organization in Project zones; (6) effects of NDD interventions on local tenure, and (7) migrations.

2. Points for consideration during Phase II of NDD, with a view toward enhanced social soundness of design

a.) Appropriateness of the NDD Technical Package*

The ensemble of improved productive techniques currently being promoted by NDD does not reflect the regional diversity of the various Project zones. Instead, a standard "technical package" is promoted at each of the three CPTs, and throughout Project zones (see Part II). Phase II of Project activities should place greater emphasis on the "micro-economics" of the technical package with trials under conditions as close to those of "normal" farm conditions as possible. It will be necessary to demonstrate the "pay-off thresholds" of variations of the present package under different conditions of land holding size, household labor availability, soil conditions, and rainfall.

Animal-drawn cultivation equipment may be more cost-effective in zones where holdings are larger, rainfall more satisfactory, and soils heavier. Elsewhere, where sandier dune-type soils predominate, and where rainfall is less, returns from the use of traction equipment may be considerably less.⁷

⁷ These restrictions do not apply to animal-drawn carts which may be used year-round for household purposes, and which serve as revenue-earners from hauling fees and sales from hauled commodities (firewood, hay, etc.), although animal maintenance costs differ (donkeys versus oxen). Not surprisingly, carts are the most popular animal-drawn equipment currently available in NDD zones. On the basis of Sargent's data, Stier suggests that the profitability of carts declines as their number in a region increases (thus reducing income from rental fees).

* Sections 2.a and 2.b are in part a summary of Stier's more detailed discussion; for details, see Part II.

The possibility that land holdings in Project areas may be considerably smaller than national averages indicate (6 hectares, USAID/Niger 1980:2), is suggested by Stier's analysis of 1979 Agricultural Statistics Service data (see Table 12 in Part II). These points must be carefully studied during Phase II, for information obtained during Phase I does not permit an evaluation of this kind (see Mullenax 1979 and Wagner 1980:9-10

Even at currently high levels of GON subsidies, the present technical package (with animal traction) represents a considerable investment (about \$800) for peasant producers whose annual average income is estimated to be less than \$100. In point of fact, acquisition of these materials entails considerable indebtedness on the peasant's part, for the equipment is obtained on credit from CNCA* through the channels of local cooperatives. Finally, it is likely to induce a greater dependence of peasant producers on GON - provided inputs under conditions where adequate and timely delivery remain highly problematic. The risks involved here are greater, not less, and in the final analysis will be absorbed by the peasantry.

In addition to rethinking the cost-effectiveness under normal farm conditions of the ensemble of productive techniques being promoted by the project, the undesirable potential for considerably increased peasant indebtedness should be critically examined during Phase II as more and more packages are distributed among the peasantry of Project zones. Failure to do so may result in the unanticipated consequence of greater agricultural wage labor in Project zones (on the part of peasants who may not be able to use their equipment profitably, but who are obliged to reimburse their loans nonetheless) and increased participation of these individuals in labor migrations.⁹

8 Dependence upon an inefficient government delivery system, however serious for projects such as NDD which rely heavily on the timely delivery of inputs, is only one aspect of a larger pattern of dependence of which we must be aware; one which includes, among others, greater dependence of peasant producers on particular combinations of commodity inputs which are not only costly, but whose technologies are completely beyond the control of the peasant producers involved in agricultural development projects. See Mooney 1979. (My thanks to Victoria Barres for bringing this useful book to my attention.) As a means of combatting this dependence, NDD efforts to train village blacksmiths in the manufacture and repair of tools and animal-drawn equipment in Project zones are commendable.

9 Experience elsewhere in the Third World has shown that increases in agricultural productivity levels through greater capitalization of agricultural production (hence greater producer investments) have resulted in increased movement away from rural areas. Popular accounts emphasize the greater efficiency of the newer techniques of production which make it possible for fewer and fewer farmers to produce higher and higher yields. Not surprisingly, accounts of this kind which emphasize efficiency may not place much stress on the role of rural indebtedness, its linkages to increased capitalization of agricultural production, to land-accumulation among a rural petty bourgeoisie, out-migrations of poorer peasants, and to the gradual formation of a part-time proletariat. Debt is only one of several factors which may contribute to the peculiar situation in several regions of Niger, (e.g. NDD zones) where participation in seasonal labor

* Caisse Nationale de Credit Agricole.

CPT-based applied research activities planned for Phase II should help considerably to illuminate what is now a very fuzzy area and one which has significant implications for the Project's "spread" or multiplier effect in the Department. NDD applied research should address not only the current technical package, but that considerable attention be given to the possibilities for improving upon the already considerable expertise of NDD zone peasants. Of all parties in the Project zones, their understanding of "production constraints" is best, and NDD stands to learn a great deal from the strategies these peasant producers have adopted over time in order to insure a meagre subsistence (see Part II).¹⁰

b.) Selection of CPT Trainees

Stier and Enger (PP team agricultural economist) have suggested that a minimum of five to six hectares of land may be necessary in order for the current NDD technical package to pay off; i.e., to cover costs and produce greater yields

9 (continued)

migrations has become a necessary component of a peasant "subsistence" strategy. Another is a generalized monetization process in which all of Niger's peasant producers are caught up, albeit in varying degrees. Increasingly, life within the "subsistence economies" of Niger's peasantries is filled with commodities which can be had only through the use of money as a means of exchange. See Section 2.g below.

¹⁰ It is noteworthy that INRAN shows an increasing appreciation for the suitability of local millet varieties, particularly vis-a-vis P₃ Kolo (introduced to Niger in 1960) and CIVT (the variety currently being promoted by NDD); also that field tests are being conducted on a range of grain varieties. These INRAN trial programs might be usefully linked with applied research activities planned for CPT operations during the second phase of NDD. Concerning the qualities of different millet varieties, an INRAN agronomist remarks that:

CIVT is better than P₃ Kolo; and several other local varieties produced just as good a yield as P₃ Kolo and CIVT at specific locations within the country (Brown 1980:1).

Concerning sorghum, the same author notes that:

The four selected varieties of sorghum L30, 1/2MSB, A₂B₂ and A₄B₄ produced better than the local varieties only at Maradi and Niamey. At all other sites, the local variety of the district gave higher yields of grain. The local varieties tested were Bagoba, El Dele, El Aboua, Jan Dawa (Ja-Dawa), Jan Jare, Mo-Aja, Itchordi, Thebou, Abdou-Kadri, Gotheye, Fara-Dawa, Biyil, Guero, Babodia-Fara, and N'Gabiri Kene (Ibid.:2).

Pradier (1980a) makes much the same point about introduced varieties of cow-peas vis-a-vis local varieties. Finally, see Mooney 1979.

for household consumption and/or sale. Stier's examinations of SAA data on the distribution of sample holding sizes suggests that there is a heavy skew toward smaller holdings in the three arrondissements (Table 2 in Part II). It remains to be seen whether the distribution of accessible land holdings among CPT trainees reflects the distribution of the SAA sample (assuming that the SAA sample is representative). If they fall largely into the smaller than five or six hectare categories, the wisdom of blanket promotion of a relatively expensive technical package becomes a highly questionable strategy. If, on the other hand, CPT trainees are drawn disproportionately from those production units having access to at least six hectares of land, then CPT training and outfitting programs may be disproportionately benefitting medium and large-holders rather than small holders. For details, and discussion of differences in land holdings requirements for profitable use of ox- and donkey-drawn equipment, see Part II.

Reportedly one of the criteria for the selection of CPT trainees is effective access to at least five hectares of cultivable land. It appears, however, that systematic information on actual sizes of trainees' holdings has not been gathered on a routine basis.¹¹ Data of this kind must be routinely obtained and evaluated during Phase II of the Project.

Access to minimal land holdings is only one of several criteria used to select CPT trainees. A second desideratum is that all CPT trainees exercise authority over the land (whatever the size) accessible to them. In the absence of this relative autonomy vis-a-vis senior members (principally fathers) of the agricultural production unit of which they are a part, CPT-trained and equipped trainees may encounter difficulties in the use of the new techniques as recommended. As we have seen on page 8, difficulties of this kind have already been encountered by graduates of the GON CFJA training center at N'Dounga, south of Niamey. In several cases, trained and equipped trainees returned home only to find that their fathers did not allow them to use the equipment (v. Pradier 1979 a & b, 1980 a & b).

Once again, no systematic data has been collected on these factors, and must be during Phase II in order to better insure that learned innovations will be applied. It is noteworthy that eight of the twenty trainees currently enrolled at the Fandou Mayaki CPT will return home to cultivate fields controlled by their fathers. Cases such as these deserve careful follow-up.

Finally, it is not clear how candidates are selected to become CPT trainees. In principle, "CPT trainees are selected by their cooperatives," but we do not know how the selection occurs within the cooperative. What are the criteria used in the selection process? Who does the actual selection - the cooperative general assembly, cooperative officers, or persons within the cooperative who may wield local political influence? These issues must be more satisfactorily

¹¹ "AID will attempt to ensure that projects do not inadvertently contribute to inequity and that they, in fact, promote equal opportunity..." (FY 1982 CDSS: 7-8). However laudable, good intentions are not enough. They must be translated into procedures.

clarified if in fact the CPT selection process is not to drift into a pattern of promoting inequitable access to resources among Project zone populations. Cooperatives in Niger (and elsewhere in Africa) have been common loci for the inadvertent promotion of inequitable access through the interplay between cooperative structure and local-level, patronage politics. NDD zone cooperatives are not immune to these effects. This is discussed in Section 2.e below and notes 12 and 13.

c.) Structure of CPT Training

Project CPTs presently combine two important functions: training and production. While intimately related, there is some evidence (a) that the emphasis currently given to production outweighs that given to training, (b) that training linked to agricultural production receives a much greater emphasis than that which is not (e.g. literacy), and (c) that the role of women in the training programs is marginal and does not reflect their importance in agricultural production, or in the reproduction and maintenance of peasant households as production units.

We recommend that greater emphasis be given to the essential training role of the CPTs during Phase II, and that if necessary, this re-orientation occur at the expense of the presently heavy emphasis on production per se. Time-use at the CPTs should be critically examined with a view toward optimizing the opportunities of all trainees for active learning in response to real interests and needs. We recommend that literacy be more functionally integrated with other CPT activities, and that it not be relegated to the "off hours" when trainee energies and attention-spans may be low as is often the case at present. In addition to the integration of what are now somewhat isolated elements of the CPT curricula, upgrading of training approaches will be necessary (see evaluation of NDD literacy programs). Greater emphasis should be given to learning activities for women which go beyond the present and marginally interesting limits of national language literacy. Concomitant with this change in emphasis, a change in the structure of women's activities is recommended so that women will have more time and more energy to pursue learning activities responsive to their interests. Possible approaches may entail changes of class schedules, the investigation and promotion of collective provisioning and meal-preparation activities, the installation of grinding mills as labor saving devices and as educational tools, and possibly the provision of some child care for women who are involved in training activities.

Additional support for a variety of educational activities in rural areas of the Project zones will be provided on an experimental basis by CECs for men and women.

d.) CPT Locations

De facto choice of CPT locations appears to depend a great deal on the availability of sufficient land (40 hectares each), and we do not expect this to change much during Phase II. Insofar as possible, however, efforts should be made to install Phase II CPTs in locations representative of the diverse geographical,

ecological, and socio-cultural milieu of Project zones. Furthermore, the content of CPT training programs should be responsive to the opportunities and constraints within each region of Project operations. Given the scattered presence of low-land and marshland areas in NDD zones, and the substantial promise these hold for improved dry-season agriculture, we recommend that one or more of the Phase II CPTs be located in close proximity to a low-land or marsh-land area (Stier provides a partial listing of these areas). This will permit CPT training programs to emphasize the possibilities for improved production within a significant focal point of agricultural production in Project zones which is presently not possible because of (a) CPT locations being some distance from well-watered areas, and (b) the impracticality of experimentation with dry-season agriculture at some CPT locations (e.g., Simiri, where all water is hand-drawn by women from a 74 meter deep well).

e.) Cooperative Organization in Project Zones

During Phase I, NDD supported the promotion of rural cooperatives in Project zones in several ways. Among others, NDD began a program of cooperative warehouse construction at the site of each cooperative seat village in Project zones. Secondly, NDD provided UNCC* with considerable financial assistance in the training and up-grading of elected cooperative officers in Project zones. Third, the Project reinforced cooperative officer-training programs through cooperative education curricula in village level and CPT literacy classes. (See evaluation of NDD cooperative training programs).

With some modification (principally, a substantial reduction in village-level education centers [CECs] whose installation will be stretched out over the five years of Phase II on the basis of observed success and careful evaluation), NDD will and should continue to support these forms of cooperative promotion. Indeed, this approach is in keeping with GON policy of cooperative promotion in cereal-producing areas with a view toward eventually moving beyond cooperative functions presently limited to credit provision and marketing, and promoting a wide range of cooperatively-based development activities.

Some doubt has been voiced about the capacity of local (i.e., "traditional") social structures within Project zones to mesh with and benefit from the proposed cooperative promotion programs (cf. Charlick 1976:4 and Goldmark 1977: 2; 17-18). While the issue of "socio-cultural" fit can only be satisfactorily answered by longer-term research on indigenous forms and processes of cooperation in Project zones and their relation to introduced cooperative structures, there is no a priori reason on ethnographic or "political" grounds alone to suspect that the "fit" will be poor. These issues require study, and to date none has been done in western Niger.¹² Despite the uniqueness of peasant social formations with

¹² On the other hand, the potential effects of local-level (particularly patronage) political linkages on the viability introduced cooperative forms of the kind described by Charlick in eastern Niger (1974) and Robinson (1975) in the Dosso (and Tibiri) region may be significant and do deserve careful attention. For this to occur during NDD's Phase II, more than reliance on UNCC will be necessary, for there seems to be a singular disinterest among UNCC field staff in the dynamics of local power brokerage (cf. Holmquist 1980), something which has proved to be important in cooperative success and failure elsewhere.

* Union Nigerienne de Credit et de Cooperation.

in NDD zones, the factors of greatest significance for success during Phase II are liable to be super-ethnic in nature, affect all Nigerien peasantries (although with a specificity which remains to be described), and reflect, more than anything, state (GON) cooperative, marketing, and price policies versus the peasant producers in Project zones, rather than ethnic differences between the producers themselves.

It must be recognized that the cooperatives within the Project zones are new -- the oldest existing cooperatives date from 1977, and more than half of the present number date from 1978. As such, their actual functions -- whatever the evolving expectations entertained by GON about their future as the basis for Societes de Developpement -- are limited to those of cooperatives throughout Niger: marketing and credit diffusion. In the past, modest profit margins afforded cooperatives by GON (UNCC) on the basis of their cash-crop and/or staple crop marketing activities furnished the basis for cooperative capital accumulation which, in theory, could be invested in a variety of locally-defined "development" activities.¹³ In practice, cooperatives have not been accorded much autonomy in this area.

¹³ Despite a great deal of rhetoric since the mid-1960s about the "cooperative movement" in Niger, it is important to realize that in the vast majority of cases, cooperative organization has occurred not because of peasant initiative, but because of state planning priorities. This pattern of state intervention in marketing, and to a lesser extent, agricultural production itself (via input-tied credit), takes a particular form in Niger (see, e.g., Keita 1975), but has occurred throughout West Africa as post-colonial states have increasingly moved into areas of capital accumulation based on agricultural marketing in which metropolitan trading companies (e.g., CFAO), Levantine and to a lesser extent, African merchants, long enjoyed privileged access. (See Holmquist 1980 for a brief discussion of the East African case.) These interventions have taken the form of state agricultural marketing boards (in the case of Nigerien groundnuts, the Societe nationale de commercialisation de l'arachide, SONARA) and the creation of rural marketing "cooperatives" which are allowed to sell solely to the marketing boards. The result has been greater state "coverage" of agricultural marketing processes (at low cost, for cooperative officers are not remunerated for their work or are remunerated at levels well below those of civil servants), but not necessarily greater degrees of peasant control. See among others, Goussault 1976 and Holmquist 1980. The case of Nigerien cooperatives is discussed by Bachard 1976, Belloncle 1978, Charlick 1974, and Painter, forthcoming. All of this is not to say that cooperatives cannot serve as vehicles for local initiatives in NDD zones, but to emphasize that in the vast majority of cases elsewhere in Niger, cooperatives have not - that is, have not been able - to function in this manner. As the text suggests, the new orientations being given to rural cooperatives by GON may afford these

Given the new orientations which the GON statutes of 1978 and 1979 promise to give cooperative organization in Niger, we may anticipate (but cannot assume) that greater local control will be exercised over cooperative returns from marketing operations. Cooperative "autonomy" is one of several issues which remain to be resolved before the cooperatives in Project zones will become viable, locally-controlled investment and development structures. The issues are complex and cannot be discussed at length in the present paper, but two merit brief mention. The first is GON price policy; the second concerns the real (as opposed to theoretical) possibilities for the generation profit margins by Project zone cooperatives, and the consequent potential for accumulation of capital and investment according to local cooperative priorities.

The rapid expansion of cooperatives in western Niger has not been accompanied by a similar increase in tonnages of cereal and cowpeas marketed by cooperatives as percentages of total production in cooperative zones. This is particularly true of millet, and slightly less true of cowpeas, a staple crop which has replaced groundnuts in much of the west as a major cash crop for export. Substantial differences in purchase prices paid by GON marketing boards and traders on the "free" (i.e., non-cooperative) market result in continuing large portions of total marketed production by-passing GON-installed cooperative markets.

Because cooperative profit margins are in part a function of returns on total marketed tonnages less a wide variety of fixed and variable expenses, a combination of small marketed tonnages and substantial expenses result in cooperative operating losses. Losses of these kinds are absorbed by a nation-wide intercooperative fund, so individual cooperatives which run in the red remain viable in principle, but in fact, any profit margins they might obtain for future local investment purposes are cancelled out by each year of deficit operations.

13 (continued)

local organizational forms the autonomy and clout they must have if they are to be anything more than an inexpensive means of facilitating state penetration into Niger's rural economy. As Holmquist (1980) argues in the case of Tanzania, cooperative viability remains problematic even where the state affords them substantial political and economic support. Elsewhere (e.g., Niger), support of this kind has manifested itself largely in the government rhetoric of cooperative promotional programs and stopped there. There are grounds for some optimism over the nascent Societes de developpement (which even well-placed Nigeriens do not clearly understand) whose foundations are the cooperative structures presently in place, but it will be an uphill battle. A great deal will depend on GON's ability and willingness to deliver the kind of structural support for autonomous operations which viable cooperatives require.

We were unable to obtain information on the operations of all cooperatives in NDD zones since their installation, but details on cooperatives in the Ouallam and Filingue arrondissements for the 1979-80 marketing season provide some indication of the problems alluded to above. All project zone cooperatives in the two arrondissements -- where purchases consisted of millet, cowpeas and some sorghum -- operated at a loss during the 1979-80 season. Individual cooperative losses varied from a low of about 10,500 CFA francs (\$50) to a high of 71,000 CFA francs (\$340); most were in the twenty to forty thousand franc loss range.

If these patterns are representative of cooperative marketing activities throughout Project zones (an empirical question), then we suggest that the health of the nascent cooperatives is in jeopardy, and will probably remain problematic for at least four to five years (depending on the date of creation) during which fixed costs will remain at substantial levels. (An important, but not the only factor in these initial fixed costs is the yearly deduction over five years of about \$84 [17,500 CFA francs] as payment for produce scales provided at unsubsidized cost to each cooperative by UNCC.)

These two issues -- GON price policy and the real capacity of NDD zone cooperatives to benefit from their cooperative activities -- will have an important effect on the viability of these local organizations and the enthusiasm of peasant producers about them.

The success of cooperatives in Project zones appears to hinge less on their "fit" with local cultural practice and values than their capacity to help peasant producers in the region obtain returns on their investments of time, energy, and money, as they attempt to optimize in a very harsh environment. Unfortunately, NDD in itself can do little to affect these factors which are in large part determined by GON policies.

Finally, there remains the thorny issue of GON's policy of cooperative "collective responsibility"* for agricultural loans which in fact are accorded to heads of households. It appears that Zarma society has even less low-level political centralization than Hausaphone groups in the east of Niger. A variety of non-cash remunerated mutual assistance/labor exchange forms (collectively referred to here as boogou among the Zarma, with parallel forms among the Tuareg and Hausaphone people in the Filingue region)¹⁴ are found in NDD zones, but we know nothing about their incidence or their economic importance in agricultural production. In any event, they are spontaneous, ephemeral, and appear to be in a transitional stage in which they are being replaced by variations on the theme of agricultural wage labor. Since 1974, GON has made considerable efforts to revalorize local youth organizations -- the Samaria -- but largely for the completion of

¹⁴ See Guillaume 1974:71-73 and Olivier de Sardin 1974:14-17, among other sources.

* Actually, a collective security (caution) or guarantee.

state-sponsored community development and improvement activities, and as a means of fostering support among Niger's youth for the government. (This is not the first time that efforts have been made to rejuvenate the Samaria for political purposes; much the same thing happened during the 1960s under the Diouri regime.)

We have no good reason to expect that a policy of collective responsibility for agricultural credit in the absence of a program of massive social mobilization and re-socialization will be any more successful in NDD zones than anywhere else in Niger.¹⁵ True to form, the Groupement mutualiste (G.M.) remains the basic social "cell" of cooperative organization, but as a "functional entity," Zarma villages appear to offer even less promise than Hausa villages in the east (v. Charlick 1976 and Goldmark 1977). Insofar as the fit between indigenous and introduced cooperatives is concerned, there is one bright spot in the recent GON cooperative statutes. The GM may be a village or a quarter within a village or a tribe (in the case of nomadic groups). For the first time in the history of cooperative promotion in Niger, there is some promise of a linkage between GON-sponsored cooperative structures and forms of indigenous cooperation based on linkages of kinship. These issues deserve careful study during Phase II, for our current understanding of potentially relevant structures, and processes of cooperation among peasantries of project zones is very poor.

The relative youth and apparently precarious health of NDD-zone cooperatives also affects areas of NDD programs which are not, strictly speaking, economic in character. We hypothesize that the disappointing results of Phase I literacy programs may be traced in large part to an inadequate answer for a question peasants in project zones may reasonably ask: "National language literacy for what?" In a real sense, a satisfactory answer to this question depends on the viability of cooperative organization in the rural areas where literacy is being promoted. Elsewhere in Niger (Maradi and Zinder departments), substantial impetus was given to "functional literacy" programs in rural areas by the enhanced possibilities literacy offered peasant producers for participation in and management of local marketing and credit cooperatives.¹⁶ The promise of increased capacities of this kind in NDD zones is a novel development, and in many respects, may not be considered very risk-worthy by many peasants. Quite reasonably, their response to these activities may be one of hesitation until they see more. The proposed improvements in project literacy programs (CPTs and CECs for men and women) will doubtless improve the situation, and because of this are considered necessary. In a more general sense, however, the health of NDD literacy programs will remain linked to the health of the cooperatives being installed in project zones. In the short run, the only way to break out of what may be a chicken-egg dilemma during the formative period of Project zone cooperatives is to replace the present heavy emphasis on literacy per se within Project training programs with a more diversified curriculum. This has been proposed in the section on literacy programs.

¹⁵ See Bachard 1976:60-75.

¹⁶ Critical analyses of the links between "functional literacy" and cooperative growth in Niger are rare and overwhelmingly restricted to experiences in groundnut producing areas in the east. See essays in Belloncle 1978, but especially Easton 1971; for a more thoroughgoing analysis and comparative data from Mali, see Easton 1978.

f.) Effects of NDD Interventions on Local Tenure

The transitional nature of "traditional" land tenure in the Project zones was briefly discussed earlier (see Stier and Goldmark 1977). Within the context of these changing tenure patterns, NDD is introducing a range of productive innovations whose success depends in part on and is likely to have consequences for access to land in Project zones.

It is not impossible (although on the basis of current data no predictions are possible) that Project "spread effects" will disproportionately benefit medium and larger holders in Project zones (for reasons suggested above) unless some assurance is provided that beneficiaries represent a cross-section of Project zone producers or are deliberately selected from among smaller holders. On the other hand, given the character of the terrain in much of the Project zones, it is not at all likely that land accumulation will occur as a result of Project activities, for overall valorization of rain-fed cultivation areas will probably be minimal.¹⁷ The long-term, cumulative effects of repeated application of recommended inputs remains to be seen.

In those areas of Project zones where the valorization of land has been relatively greater due to better soil quality (greater loam content, greater accessibility of water, etc.) there is a greater possibility that some accumulation of land holdings will occur as investments in the production of agricultural commodities (market crops) increase. It may be anticipated that the tempo of this process will be greater in those better-endowed areas (low-land and marsh-land areas) which are in closer proximity to regional market centers or road networks providing access to consumer populations in towns and cities. On the other hand, it is almost certain (but presently unknown), that most of these areas already have claimants even though they are under-utilized. Tenure in low-land and marshy areas deserves further study.

Finally, considerable attention should be given to the nature of women's land tenure in Project zones during Phase II. A strength of Phase II design lies in the provisions therein for credit funds earmarked solely for

¹⁷ Accumulation does occur in the Nigerien countryside, however poorly the phenomenon has been studied in NDD zones. Not surprisingly, those most likely to benefit are engaged in commerce or have privileged access to the state (civil servants, veterans, "traditional" chiefs, etc.). See DeLatour Dejean 1975:205-216 et passim on tenure changes in Mawri country (cf. Derriennic 1977:295). This topic, like several other issues raised by NDD interventions, deserves careful field study. Changes in land tenure are all the more interesting given Goldmark's (1979) preliminary study and the suggestion by Poncet that the quantity of land in one's possession -- cultivated or not -- is much more important among the Zarma (see Stier's discussion of descendants of captive castes in NDD zones and their terms of access to land) than among Hausaphone peoples of Niger (Poncet: 30-31; cf. Laya 1973:137 and Derriennic [1977:243-244], who cites sections of an article by Henri Raulin who argued in a similar vein ten years earlier! [1965]). See Painter 1979:62-64 and notes 24-28 concerning the Dallol Bossou and Dallol Mawri regions of the neighboring Dosso department.

women's agricultural activities. If women are to benefit from investments resulting from their access to this fund, a modicum (i.e., more than one season) of security of tenure will be necessary. Otherwise, it may prove unrealistic to expect women to make more than minimal investments in rainy-season and dry-season crop and garden cultivation as long as the plots allocated to them are liable to summary repossession by the owners.

g.) Migrations in NDD Zones

The NDD goal of increased productivity levels in staple and cash crop (cowpeas) production carries with it the expectation of increased real incomes for rural producers. One anticipated result of this -- however implicit -- is some reduction in the current pattern of seasonal migrations from Project zones, and an accompanying reduction in the drain on household labor resources these migrations entail.

Data on the scope and the economics¹⁸ of labor migrations in the Project areas are sketchy, but observations are numerous enough to suggest that the seasonal outflows of living labor from some Project zones are considerable, particularly in the Zarmaganda region (Sidikou 1974:66-68, 143-158 and 1978) and the Dallol areas in the southern part of the Filingue arrondissement (Beauvilain 1977:157-160 and Guillaume 1974:110-111).

¹⁸ Figures on the participation of NDD zone populations in migrations vary considerably. On the basis of 1966 census data, Sidikou estimated that 1.6% of the Simiri canton's population was absent on migrations (1974:143), while Beauvilain estimates that as much as 36% of all household heads in the Dallol Bosso region (in the Dosso department, just southeast of NDD zones) are absent during periods of seasonal migration (1977:159). Once again from data collected in the neighboring Dosso region, Poncet estimated in 1974 that 60% of all active males were absent from some Dallol Bosso villages on seasonal labor migrations (1974:15). Poncet's high estimates were given considerable support by observations made early in 1978 by staff of the Dosso Department's Service du Plan who found that as many as half of all active males in a sample of ten villages they visited in the Boboye region (northwestern Dosso Department) were absent on migrations (Painter 1979:69, note 11).

Details on migrants' earnings and their importance to the local economy within NDD zones are even sketchier than those on incidence of participation in migrations. Sidikou very briefly mentions migrants' incomes, but in areas beyond the limits of NDD operations (1974:156-157). Data from nearby areas in the Dosso department are indicative of the seasonal influx of money repatriated by migrants, most of whom work in the Guinea Coast countries (cf. Painter 1980: 2-3; 32). A survey by the Dosso Service du Plan of all money order receipts recorded by Dosso Department post offices revealed that 39 million, 96 million, and 120 million CFA francs entered the department solely by mail during the migrant labor seasons of 1974, 1975 and 1976 respectively. During 1974, 4,119 money orders averaging 21,800 CFA francs entered department post offices. The figure for 1975 was 9,284, averaging 19,900 CFA francs each, while 9,600 money orders with an average value of 22,600 CFA francs were recorded for 1976. Overwhelmingly the money orders originated from Guinea Coast countries, and the most massive influx occurred during Niger's dry season months (Painter 1979:51-52).

"Wanderlust," "rites of passage," and "psychological" factors all figure importantly in popular accounts of these seasonal labor migrations from rural project areas to the towns and cities of Niger and the Guinea Coast states (e.g., Ivory Coast, Ghana). We are in no position to discount the social-psychological factors which figure in seasonal labor migrations, but the socio-economic matrix in which they occur is of particular interest and overriding significance. We would do well, for example, to examine the historical and economic changes which have so affected peasant social formations in Western Niger that seasonal labor migrations have become validated as part of the transition from youth to adulthood ("rites of passage"). In a related sense, rather than taking this "natural" fact of life in some Project zones as a given, we might inquire into the sequence of events which has made labor migrations such a predictable feature of the social landscape.

The topic is a complex one and cannot be treated at length here, but a search for explanations must necessarily lead us to a consideration of the changing nature of peasant "subsistence" economies throughout western Niger. Labor migrations, for many households in NDD zones, have become an integral part of an overall subsistence strategy whose aim is the maintenance and reproduction -- the social continuity -- of the household form of production and consumption. These migrations, rather than adventurous forays, have become a necessary household activity which involves both benefits and costs (neither of which are very well understood). Some (not all) earnings are returned by migrants, and some of these are converted into staple foods and livestock; others are spent less productively. On the other hand, the migrants' absence drains labor resources from the household as a unit of production.

Insofar as NDD operations prove themselves to make economic sense to peasant producers in Project zones, i.e., to enhance their capacity to increase production and incomes with a minimum of risk, it is possible that some very modest modifications of the present pattern of labor migrations may occur. Gains will have to be substantial and risks rather low. It is less than certain that the NDD -- or GON -- can provide such a combination. In the meantime, until the opportunity costs of migration are greater than those of remaining in a situation of marginalized subsistence or adopting the ensemble of productive techniques being promoted by the project, these migrations will continue. At present, these opportunity costs are not known. Nor for that matter, is the economic viability of the Project technical package under a variety of "normal" conditions. What is more, there is the possibility, as suggested in Section 2.a above, that current Project strategies, if continued unaltered during Phase II, may contribute to an increase in seasonal labor migrations for reasons which are by no stretch of the imagination, "psychological." Substantial attention to these factors will be necessary during Phase II of NDD.

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