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**North Shaba Rural
Development Project,
Zaire**

**Final Report:
Technical Assistance
Contract
1977-1986**

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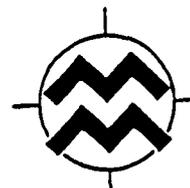


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INTRODUCTION

The North Shaba Rural Development Project, generally known by the acronym PNS, was one of the largest, most ambitious, longest-lived, and most successful food production projects undertaken by any donor in sub-Saharan Africa during the past 25 years. This list of superlatives could be augmented by stating that PNS was for many years one of the most controversial projects undertaken with financing from the U.S. Agency for International Development, because of its complexity, remoteness, and unfavorable political and economic environment. In its later years, however, PNS gained substantial recognition for its achievements, both within Zaire and elsewhere in Africa.

The basic objective of PNS was to increase agricultural production and farmer incomes in an area of Zaire's Shaba Region once known as the breadbasket for the mining areas around Lubumbashi (see map). The project was designed to overcome a set of interrelated constraints, particularly relating to crop production and farm-to-market transportation. This was to be done through an integrated management structure that would coordinate the delivery of services to thousands of small farmer households in the designated area, which occupied most of two administrative zones, Kongolo and Nyunzu.

PNS was unique in several respects, not least in that it exceeded all of the quantitative targets that had been set in the original project paper (PP). Rail shipments of maize, the key staple food of Shaba Region, rose from a pre-project baseline of about 10,000 metric tons to over 56,000 tons in 1985; commercial activity revived in the towns and trading centers of the project area; and farmers throughout the two zones responded promptly to the production incentives that they perceived as market access improved and farm-gate prices rose.

PNS was designed in 1976, and the implementation phase began in 1977. Originally intended to continue through 1982 with USAID and Government of Zaire (GOZ) financing, and for four additional years with only GOZ financing, it operated with joint funding until September 1986. Expenditures over the 10-year period totaled just under \$31 million, of which 53 percent represented foreign exchange costs (see Table 1). Well over one-half of its local currency support, however, came from counterpart funds (CPF) generated by sales in Zaire of U.S. food commodities imported under U.S. Public Law 480. In practice, therefore, PNS remained substantially dependent on donor financing.

Four months after its assistance terminated, USAID sponsored a final impact evaluation of the project (see Annex 2 for a list of this and other project-related reports). The resulting evaluation report provides the most complete and balanced assessment of project benefits relative to costs, and of the developmental effects of PNS on the economy and society of North Shaba. Readers of this document are encouraged to read the impact evaluation for a more thorough discussion of project activities and accomplishments.

TABLE 1

FUNDS USED BY PMS(a)
(in dollars)

Funding Type	1977	1978	1979	1980	1981	1982	1983	1984	1985	1986	Totals	% of Totals
1. GOZ(b)												
a. Investment Budget	1,780,827	--	--	--	854,545	763,927	--	--	--	--	3,399,299	11
b. Ordinary Budget	--	--	372,000	353,103	77,794	84,424	1,636,000	140,310	73,489	22,727	2,759,847	9
c. Counterpart Funds	78,082	414,118	396,000	1,787,259	363,636	1,253,090	1,720,000	966,197	728,889	636,364	8,343,635	27
Subtotal	1,858,909	414,118	768,000	2,140,362	1,295,975	2,101,441	3,356,000	1,106,507	802,378	659,091	14,502,781	47
2. GRANT(c)												
a. DAI	229,785	675,488	871,640	855,062	896,484	1,201,963	938,898	1,085,113	632,198	880,393	8,267,024	27
b. MM	120,808	260,575	387,632	387,350	411,836	856,979	501,287	132,396	983,934	462,293	4,505,090	15
Subtotal	350,593	936,063	1,259,272	1,242,412	1,308,320	2,058,942	1,440,185	1,217,509	1,616,132	1,342,686	12,772,114	42
3. LOAN(d)											3,431,000	11
TOTAL	2,209,502	1,350,181	2,027,272	3,382,774	2,604,295	4,160,383	4,796,185	2,324,016	2,418,510	2,001,777	30,705,895	100

NOTES:

a For years 1977-1983 AID disbursed grant funds for participant training and related expenses, as well as for certain internal travel expenses such as plane charter. These figures are available through the AID controller and are not included in the figures in this table.

b GOZ contributions, all made in Zaires, are converted at the then prevailing official exchange rates.

c 1986 figures are as of 11/30/86.

d In addition, \$2,050,787 of grant funds were used for commodities. Of the total U.S. dollar expenditures of \$16,203,114, 34 percent was for commodities.

This report makes no claim to be a definitive history, although it contains a summary of major events, successes, and setbacks. Rather, it describes the roles played by one set of actors in the drama -- the expatriate technical assistance (TA) team -- and it has been produced to meet a contractual requirement. It does draw on a substantial body of documentation and institutional memory, however, and given the large number of actors who were involved in the project, continuity of perspective on the events and major issues is a valuable asset.

Development Alternatives, Inc. (DAI) and its engineering subcontractor, Morrison-Maierle, Inc. (MM), joined forces in 1977 to compete for the TA contract, and the two firms worked together harmoniously for more than nine years. Throughout PNS, DAI personnel advised and assisted the Zairian staff of the Project Management Unit (PMU) and the components of the project that dealt with agricultural production, marketing, and farmer organization. MM's personnel were instrumental in supporting the infrastructure activities, including rehabilitation and maintenance of project area roads, bridges, and buildings.

PROJECT DESIGN OBJECTIVES

The stated purpose of PNS was to identify a rural development process for improving small farmer production and incomes for replication in other parts of Zaire. The project was designed when the U.S. foreign aid program was placing heavy emphasis on reaching rural populations who had not benefited from traditional development assistance programs. USAID was willing to make a large investment in North Shaba because of the need for testing and experimentation in the search for cost-effective, replicable solutions that could be applied on a broader scale.

For its part, the GOZ was especially concerned with augmenting domestic food production to reduce the foreign exchange burden of imported staples, notably maize, in Shaba Region. Although North Shaba had been a prosperous and productive area in the late colonial period, since independence (achieved in 1960) its support systems for agriculture had deteriorated badly. By the late 1960s, North Shaba did not have an effective system for testing and spreading improved technologies that could be used by small farmers, nor did it have a passable transportation network or a reliable grain marketing system. Each of these constraints would have to be relieved if maize production in the area were to be substantially increased.

Thus the original project concept represented a marriage between the GOZ's food self-sufficiency objectives and USAID's targeted approach for increasing the well-being of small farmers. In North Shaba, the remnants of the Belgian-dominated production system indicated adequate potential for satisfying both concerns. But PNS had a number of innovative features and was faced with formidable logistical, organizational, and policy constraints.

The financing plan presented in the 1976 PP included \$6.3 million in grant funds and \$3.5 million in concessionary loan funds (the latter designated for purchases of heavy equipment for road rehabilitation), and the equivalent of \$9.3 million in GOZ budgetary support. In addition, GOZ funding was expected to continue on a reduced basis for at least four years subsequent to the project assistance completion date (PACD) of September 1982.

The design that was developed in 1975-1976 consisted of six component subsystems, grouped together under the PMU, which would operate autonomously under the administrative control of the Department of Agriculture (DOA). The subsystems were oriented as follows (their French acronyms as used in PNS are included in parentheses):

- Research and Extension, later renamed Adaptation and Extension (A/V), was chartered to develop and extend improved crop production technologies, first for maize and then for other crops, building on the most successful indigenous farming systems found within the project area;
- Farmer Group Development (DGF) was responsible for encouraging the development of groups and pre-cooperatives at about 75 localities (farmers' centers) throughout the project area. Initially the groups were expected to carry out one or two simple functions, but eventually it was hoped that would expand into agricultural marketing and other income-generating activities;
- Intermediate Technology (TI) would support the development, production, and distribution of improved hand-tools and processing equipment (for example, maize shellers and hand mills, peanut and rice decorticators) that would alleviate labor constraints;
- Marketing and Credit (AC) was designed to promote private sector competition by addressing the needs of smaller merchants for credit, business training, and market information, and by providing technical assistance to the National Cereals Office (ONACER), which was supposed to function as the buyer of last resort (ONACER was abolished in the early days of the project, however, leaving only the private sector to handle marketing in North Shaba);
- Infrastructure Development (INFRA) was charged with rehabilitating 724 km of secondary roads and opening 600 km of farm-penetration roads; reconstructing 72 bridges; and rehabilitating houses and offices in the three key towns of Kongolo, Mbulula, and Nyunzu; and
- Finally, a Data Collection and Analysis (SCAD) Unit was to be established to monitor project implementation across all five other subsystems, analyze the resulting data to assist decision making by the PMU, and evaluate results against planned performance.

In qualitative terms, the design aimed at institutionalizing a development process in North Shaba that would become self-sustaining over time. It sought to accomplish this goal by stressing the importance of farmer groups, which, it was hoped, would progressively assume greater responsibility for extension and marketing functions, thereby limiting the recurrent cost burden on GOZ services. Although the DOA was to be the project's host institution, the design explicitly called for building a new, farmer-oriented research and extension system free of the defects (minimal contact with farmers, poor motivation, and lack of technical knowledge) that characterized existing DOA services in the project area. Yet the question of

whether the PNS management structure would wither away, and if so, when, was not answered definitively in the PP; continued GOZ financial assistance at some level of operations after the PACD was assumed to be feasible.

The project's quantitative goals were shown as indicative rather than firm targets. Although this might seem surprising, given the size of the investment being made, it reflects the high degree of uncertainty and the lack of hard data on baseline conditions. The economic analysis in the PP estimated incremental marketable maize production attributable to improved seeds and technologies and to improvements in the transport network at 27,565 metric tons in 1982, the last scheduled year of USAID financing, rising to 43,000 tons in 1986. But the analysis was prefaced with numerous caveats, and the document made it clear that the justification for PNS in strict economic terms was difficult to analyze.

SUMMARY OF ACCOMPLISHMENTS

It is a straightforward matter to compare PNS' performance against the GOZ's specific objective of an increase in marketed production from North Shaba: from 1981 onwards, shipments from the project area surpassed the quantitative targets established in the PP. As shown in Table 2, marketing increases were closely correlated with the pace of rehabilitation in the transport network, confirming the wisdom of linking production and infrastructure improvement through a unified management structure.

Even a rough calculation comparing the value of the incremental quantity of maize shipped from North Shaba with the cost of imported maize indicates that substantial economic benefits accrued to the GOZ. Assuming that imported maize is priced at \$200 per ton, the increase in marketed production for 1985 alone, 46,724 tons above a presumed baseline of about 10,000 tons (the level reached in 1975 and 1976, with 1977 apparently being an unusually bad year), would be valued at over \$9.3 million. This can be compared with total dollar and local currency expenditures of \$2.4 million in the same year.

External evaluators attempting to assess PNS' performance in 1979 saw little evidence, at that time, that the project would generate the desired results; those who participated in a 1982 evaluation saw so many weaknesses in the TA team and project management practices that they denied any link between positive economic changes in the project area and the presence of PNS. Without doubt, attribution of causality is an extremely complex matter, and PNS never developed anything resembling the type of comprehensive data collection and analysis system that the PP design team had envisioned. The Data Collection and Analysis subsystem, however, did acquire the capability to carry out sample surveys that provided a basis for estimating the amounts of maize and other crops that would be produced each year and eventually reach the market.

However imperfect the data set, PNS made a dramatic difference in the economic life of North Shaba. Initially, this difference manifested itself as a resource transfer, primarily through the creation of jobs, but it had far broader impact as improved seed and production practices, road and bridge improvements, and a revival of private commercial activity combined to influence farmers' decision making. Those effects were much more conspicuous, and beneficial, in the eastern

TABLE 2

EXPORT OF AGRICULTURAL PRODUCTS FROM THE PNS AREA
COMPARED WITH REHABILITATED ROAD TOTALS, 1977-1985

Year	Km Road Repaired	Maize	Oil	Rice	Peanuts	Manioc
1977	0	5,904	1,081	58	150	3
1978	0	11,635	920	239	236	326
1979	96	12,353	1,461	359	374	42
1980	207	18,199	1,570	665	474	88
1981	461	32,383	1,738	571	717	185
1982	629	30,500	1,871	278	529	255
1983	687	40,644	1,945	308	782	291
1984	856	35,568	2,309	174	554	271
1985	1,012	56,724	1,475	177	503	193
1986	1,047	48,000 (est.)	NA	NA	NA	NA

NOTES

1. In 1984, many private merchants reacted negatively to the announcement of a floor price of 4 zaires/kilo for maize at the farm gate, and limited their buying activity in North Shaba.
2. Farmers planting maize in late 1984 were encouraged by that year's floor price, resulting in a large surplus for the market in the 1985 campaign. However, the Shaba regional government abolished the floor price and the farm-gate price fell to 3 zaires/kilo, with merchants responding vigorously.
3. In 1986, a scarcity of agricultural credit in the May-July period constrained many of the merchants from undertaking large purchases in North Shaba.

area of Kongolo zone than in Nyunzu. The latter area was characterized by very low population density and pronounced shifting cultivation patterns, and PNS never managed to develop a workable model for extension, adaptation, and crop diversification in Nyunzu. As a result, while Nyunzu's maize production for the regional market increased during the life of the project, ancillary commercial development was minimal.

In terms of USAID's stated purpose of identifying a replicable (and self-sustaining) rural development process, the record is mixed. Certainly PNS offers some applicable lessons for other projects in Zaire, as well as elsewhere in Africa, and the DOA is anxious to emulate its success, assuming that substantial donor financing can be found. Yet the vision of the designers -- that development in North Shaba would take off from the base provided by PNS and require little if any continued external support -- has not been realized.

THE POLICY CONTEXT

Two major factors in the policy environment had serious effects on PNS throughout its 10 years. The first related to local currency financing of project activities, and the second to agricultural pricing decisions made at the regional level. Each of these would merit an extended discussion, but in a report of this kind only a summary treatment is possible.

Financing Project Activities

The original financing plan called for the GOZ to meet almost one-half of the project's costs during 1976-1982, and to shoulder the full burden of continuation after USAID support terminated. In a formal sense, the GOZ never backed away from this commitment, and PNS received sizable budgetary allocations -- but not disbursements -- every year from the DOA. The GOZ's contribution at start-up in 1977 was timely and fully adequate for the project's needs. Over the ensuing years, as the project began to show results in the form of production and marketing increases, it became the DOA's flagship project and attracted numerous visitors from high levels in the GOZ hierarchy.

The persistent problem, however, was that a high profile and favorable comments from GOZ policy makers did not translate into a reliable flow of funds. As Table 1 demonstrates, disbursements to PNS under the DOA's investment (development) and ordinary (recurrent) budgets declined over time, with the result that the project became almost totally dependent on CPF support to meet its payroll, pay its suppliers, and operate its programs in North Shaba. Access to CPF support, especially from 1980 onwards, did not completely eliminate the need for improvisation and crisis management at the PMU level, but it ensured a degree of stability that few other DOA projects enjoyed.

The reasons for the shortfall in GOZ financing were traceable both to the country's macroeconomic problems -- with the International Monetary Fund insisting on strict expenditure controls, both the development and recurrent budgets in all ministries were being cut back -- and to the small proportionate share of agriculture

in Zaire's overall development investment program. In spite of several policy pronouncements assigning top priority to agriculture, the percentage allocation to that sector remained extremely small throughout the period.

The principal opportunity to surmount national budgetary limitations involved linking the project to regional revenue sources. Many analysts noted that PNS offered an exceptionally good case for capturing tax revenue from beneficiaries (principally private sector merchants and, to a lesser extent, farmers) and channeling that revenue back into the maintenance of critical production and marketing support systems. Authority to collect taxes had already been vested in the regional administration in Shaba, and a variety of special taxes were being collected from millers, brewers, and other commercial operators. Some combination of railhead and road-user taxes looked like the most promising mechanism for generating the revenue needed to cover PNS' ongoing costs after donor assistance ended.

Unfortunately, policy dialogue on the sensitive subject of revenue collection and allocation between USAID and the GOZ was sporadic: it intensified at times when the future of PNS was in doubt and then diminished when a short-term solution had been agreed on. The regional authorities in Shaba reacted adversely to specific suggestions from USAID about how tax revenues should be spent, and at the ministerial level, the DOA refused to renounce the concept that budgetary support would be forthcoming, even in the face of repeated shortfalls in available funds.

It was in this context that the option of integrating PNS with ESTAGRICO, a cotton company largely under private ownership operating in North Shaba, became particularly attractive to USAID. The integration model essentially called for a privately managed but publicly financed project. Yet ESTAGRICO proved unable to secure promised financing to support its own cotton production and extension program. And so, although the initial step was taken of integrating PNS' Infrastructure Development (road and bridge rehabilitation and maintenance) subsystem with the company, the activities continued to depend on CPF financing. ESTAGRICO eventually declined to proceed with integration of PNS' agricultural program into its own structure and disengaged from the agreement that had placed project area roads and bridges under its management.

By the PACD, no permanent resolution had been found to the vexing issue of financing. The DOA announced its intention to maintain PNS as a project, even if no donor funds were forthcoming. In the meantime, USAID and the GOZ had signed a bilateral agreement for a new activity, Central Shaba Agricultural Development, that was mainly directed at adjoining zones (including Kabalo and Kabongo) to the south of the PNS area. Initially, USAID agreed that CPF support would continue to be made available for seed multiplication and extension activities within the PNS area, under the umbrella of the new project.

Early in 1987, however, the DOA decided to make a strict geographic distinction between the "old" PNS area and the "new" area to be served by the Central Shaba project. This had the effect of removing both CPF support and carry-over TA -- several DAI/MM personnel had remained in North Shaba under personal services contracts to help with the transition from the old project to the new one -- from all agricultural activities in North Shaba. Whether PNS could continue to function, in the absence of this support, was seriously open to question.

Pricing Policies

Prices for agricultural products are set at the regional level in Zaire, and during the 1970s the policy within Shaba Region explicitly favored the interests of urban consumers. The Governor of Shaba would meet each year with representatives of public and private organizations and then set prices at each point in the marketing chain, starting at the farm gate. These conferences were usually held in March, shortly before the onset of the dry season, when marketing activity begins; but the result was that prices were set after the maize crop had been harvested. Thus farmers in North Shaba and other production areas had to decide on the area to be planted with various crops without knowing what they would be likely to receive when those crops were sold.

The urban bias in regional pricing policy reflected political considerations in southern Shaba. For a long time, farmers' interests were judged to be subordinate to the goal of maintaining low consumer prices for maize and other staples. Yet the official prices for those foodstuffs were rendered almost meaningless by the existence of a thriving parallel market for maize imported by GECAMINES, the large parastatal mining company.

Each year, representatives of PNS and other production projects in Shaba made a strong case for raising farm-gate prices or, better still, allowing them to float. Each DAI chief of party was involved in this effort. From 1980 onward, as PNS began to show significant increases in marketed production, the evidence began to favor stronger incentives for the farmer. The result was that official "floor prices" (which merchants had always treated as ceilings, rather than minimums) began to move upward, and were eventually allowed to float.

The incremental effect of pricing changes, coupled with progressive improvement of the transport network, was to stimulate competition among private merchants. Nonetheless, a handful of individuals remained dominant in the North Shaba market, mainly because of their high liquidity and access to larger transport fleets. At the farm and village level within the project area, farmers' bargaining power did not increase dramatically with regard to the major merchants, but the reliability and timeliness of sales were markedly improved over pre-project conditions.

PROJECT MANAGEMENT

PNS was an exceedingly complex undertaking, far more so than even the original design team recognized. Project management arrangements were described in some detail in the 1976 PP, covering both the internal division into six component subsystems, and the external linkages between the project and its principal sponsors, USAID and the DOA, as well as other entities in Zaire. Many of the formal structural relationships, however, proved weaker or less meaningful than informal relationships when it came to conducting the business of the project and, at times, ensuring that it survived.

As a result of learning what worked and what did not, and of USAID's increasing concern with the issue of sustainability, the project's internal structure was modified considerably over time. Organizationally, PNS in its final years was

leaner and simpler than at the beginning. Substantively, however, there was much more continuity insofar as project operations were concerned: the coordinated attack on agricultural production and transport constraints that formed the basis of the original design was sustained over the full lifetime of PNS.

There were times in the early years when the size and complexity of the project made it seem almost unmanageable. Not only was it difficult to initiate, monitor, and coordinate activities in six functional subsystems across a large geographic area, but it was also impossible for project management to exercise control over a host of external factors (for example, GOZ budgetary problems, logistical blockages, and deterioration in the macroeconomic climate). It was fortunate, therefore, that the project design allowed for flexibility in problem solving and decision making and that PNS' sponsors maintained a pragmatic outlook. Had either USAID or the DOA wished to dictate the solution to each obstacle that confronted the TA team in North Shaba, PNS would probably have collapsed.

External Linkages and Support

The PP portrayed PNS as the designers envisioned it: a Zairian project assisted by an American TA team. Accordingly, the organizational plan called for a hierarchy of advisory committees that would facilitate project operations at appropriate levels in the GOZ structure. These were a Project Steering Committee, chaired by the Commissaire d'Etat for Agriculture and intended to be the mechanism for providing high-level policy and program guidance; a Liaison Staff Committee, responsible for technical backstopping at the national level; and a Project Advisory Committee, consisting of zonal-level administrative officials in North Shaba itself. The project itself was not assumed to require any direct presence for logistical or representational support in Kinshasa. This serious oversight was rectified in the first year with the establishment of a permanent logistics office in the capital.

None of the officially chartered committees ever functioned, although the role of the Liaison Staff Committee was largely fulfilled by continuous interaction among the Kinshasa-based logistics officer, the USAID project manager, and senior technicians in the DOA. In reality, the PMU was vested with a high degree of autonomy. This had major advantages and disadvantages, as the following discussion will show.

The Project Management Unit

Origins and Evolution of the Project Management Unit

The composition and structure of the PMU changed somewhat over the course of the project, but basically it consisted of the project director, a senior-level cadre designated by the DOA; the chief of party of the expatriate TA team, who was employed by DAI subject to USAID approval; and the deputy director for administration and finance (ADF), a position filled for almost six years by expatriates employed by DAI, but from March 1983 until September 1986 by a Zairian cadre appointed by the DOA.

In the original conception, the DAI chief of party was named deputy project director, reflecting USAID's belief that this would help ensure tight control over the use of project resources. This designation proved to be one element in the management difficulties that arose during 1977-1978, and the chief of party's role was redefined as an advisory one. In practice, however, and especially during absences of the project director from project headquarters in Kongolo (a frequent occurrence, particularly in 1982-1984), the chief of party retained a large measure of operational authority and responsibility.

The operating procedures of the PMU, although based on standard Zairian government norms, evolved over time and were the result of compromises among its various members. Generally, the Zairian directors with years of experience in a strongly hierarchical bureaucracy had to be encouraged to adopt a more flexible stance on the question of sharing authority with the subsystem chiefs; for their part, the expatriate chiefs of party and team members were obliged to reciprocate by adjusting to a more rigid set of administrative procedures than they had known elsewhere.

The PP emphasized a significantly decentralized project structure, outlining subsystem functions and budgets in great detail, on the assumption that it would foster accountability between the project and the local population, thereby enhancing a positive response to project interventions. Yet PNS always suffered from a scarcity of competent and experienced middle managers. In this respect, of course, its situation was no different from that of most other development projects in Zaire, or even the headquarters of national ministries. In the early years, its problems were seriously compounded by the 1977 and 1978 incursions into southern Shaba of anti-government rebels and by the extreme remoteness of the project site. This made it very hard for the DOA to assign, let alone attract, seasoned personnel to PNS. In practice, some administrative functions belonging to the subsystems were subsumed under the PMU, and spun off later in the project, simply because this represented the most efficient use of the available management skills. The PMU represented the project to the regional authorities, to the DOA, and to USAID. Since most of the subsystem chiefs were lower ranking (and often newly appointed) employees of the DOA, who hoped to be accepted as permanent career civil servants, they did not readily challenge the authority of their superiors in the PMU.

Role of the Project Director

During the nine and one-half years of USAID support for PNS (GOZ personnel arrived in Kongolo in April 1977, three months before the DAI/MM team), only four individuals served in the key position of project director. The first left in 1978, after one year with the project; his successor, a senior technician from the DOA, spent nine months as interim director; and the third and fourth served five and one-half and slightly over two years, respectively.

The first director of PNS proved unable to adjust to the project's open management structure. It is noteworthy that he was the youngest of the four who eventually served and that he possessed the least administrative experience, having been transferred to PNS from the CIMMYT-sponsored National Maize Program (PNM), under whose auspices he was working toward a Ph.D. in the United States as a plant breeder. He stated his disagreement with the basic design of the project and refused

to collaborate with the expatriate TA team; he also insisted on being accompanied everywhere by an armed bodyguard, on the grounds that his personal safety was threatened by the local population. His removal in May 1978 was a joint decision of the DOA and USAID.

The second project director, a high level civil servant from the DOA, engineered the transfer of the first director and then stayed on until February 1979. Subsequently he was named director of the Bureau d'Etudes et de Planification at DOA headquarters, where he remained an active, committed supporter of PNS. The assignment of such a capable administrator to PNS as a troubleshooter is evidence of the concern and interest with which the DOA viewed the project in its early days.

It was during the tenure of the third director, 1979-1984, that the role of project director became clearly defined. A seasoned administrator and a natural diplomat, he delegated tasks to subsystem chiefs and chaired the bi-monthly policy meetings more as a chairman of the board than as a boss. With no loss of dignity, he deferred to the chief of party on certain issues, especially those dealing with USAID policies. Having grown up down river from Kongolo in a neighboring subregion, he sympathized with the culture and aspirations of the local population. It was perhaps unfortunate for the project that he was so well known for his diplomatic skills, as he was frequently called to Kinshasa or Lubumbashi to speak for PNS on national and regional agricultural policy issues. Although the issues were usually closely related to the project's objectives, these prolonged absences were a burden on the other members of the PMU, especially the chief of party.

The last director of PNS continued the policies of his predecessor. He was fortunate in coming to the project when it was operating well, and when morale was especially good and cooperation between the expatriate and the Zairian teams at the highest level ever. He worked closely, on site, with the last two chiefs of party to maintain the high morale and smooth operations right through to the PACD.

Because the project director was a career civil servant in the DOA, his goals and responsibilities were not completely identical to those of the contractor or USAID. Rather, the director's primary loyalty was to his ministry, where his long-term career interests lay. As a high-ranking civil servant, he was also a locally important member of the Mouvement Populaire de la Révolution (MPR), the only authorized political party in Zaire. In his role as party member, he was answerable after a fashion to the commissaires of the zones of Kongolo and Nyunzu and answerable directly to the Governor of Shaba, a powerful official who often had a distinct agenda for agricultural development within the region.

Deputy Director for Administration and Finance

The PP specified that the ADF post would be filled by an American for the lifetime of the project, that is, through the original PACD of September 1982. This reflected USAID preferences but was not greatly appreciated by the DOA, which expressed its intention to fill the position with a Zairian administrator at the earliest possible date. In practice, it was almost six years before the post was localized and the contractor no longer had to staff it.

The ADF position was a crucial one in the management structure of PNS. Ranking directly below the project director in authority -- except during the brief interlude when the deputy director for technical services position was filled -- the ADF was frequently called on to serve as acting project director. His main functions included those of financial controller and supervisor of accounting, warehousing/procurement, personnel, and the Kinshasa support office.

The ADF was responsible for periodic reporting to the DOA and USAID on budgetary matters. Zairian law is based on Belgian law, which derives from the Napoleonic Code. It was obvious early in the project's history that a Zairian trained in application of Zairian laws would be the best choice for the position. When the DOA's appointee arrived, his initial overhaul of the PNS financial system appeared to go well. For the first time, local currency (zaire) budgets were presented on time, and in a comprehensible format. Financial reporting to the DOA on GOZ receipts and to USAID on CPF support became more reliable. However, three audits of PNS by Coopers and Lybrand (in 1983, 1985, and 1986) were highly critical and recommended specific measures to improve the audit trail. Unfortunately, although much improved over previous years, the PNS accounting system had not reached the recommended standards at the PACD.

The personnel department was also badly disorganized until, during the last year of the project, a competent Zairian personnel manager was contracted. By the time the lay-offs leading up to the PACD began, there was a complete personnel file on every worker, including a legal copy of his contract and all documents pertaining to leave.

Warehousing and procurement planning at the project site were inadequately controlled during the first few years of the project. In 1983, at the request of the DAI chief of party, USAID authorized the employment on temporary duty status of an American warehousing and procurement expert. Within six months of his arrival, procurement was organized and the flow of supplies running smoothly. On a second temporary duty assignment starting in early 1984, he established a warehousing system for spare parts for all project equipment. DAI and USAID judged his services valuable enough to warrant the offer of a long-term contract, which took effect in May 1984.

Logistics Support in Kinshasa

The PP did not anticipate the project's critical need for a lifeline to the outside world, specifically, where offshore and in-country commodity procurement were concerned. By mid-1977, this need had been established and USAID employed a personal services contractor for several months to take charge of project logistics, including the supervision of building repair and construction work in Kongolo, some 1,000 air miles away from the capital. When the DAI/MM advance party arrived in country in July, it quickly recruited the logistics specialist and incorporated his position into the eight-month letter contract that was being used for project start-up. Although at various times over the next eight years USAID suggested that the position either be phased out or filled by a Zairian, it remained a permanent part of the expatriate TA team until the PACD.

During the course of PNS there were four directors of the Kinshasa support office, all of them Americans with many years of prior experience working in Zaire and good language skills in French and Lingala. In keeping with the flexibility and fire-fighting mentality of PNS in the early years, the Kinshasa logistics operation showed a capacity for improvisation and wheeling and dealing with the private sector when normal commercial channels were blocked for purchasing fuel, cement, and other needed supplies. It also proved far more effective in getting project-related shipments out of customs and delivered to the interior via river and rail or air cargo than any other logistics unit in Kinshasa. Not until late 1982, however, when the third of DAI's four logistics officers took over, did the office operate with smooth, orderly routines. In the last three years, the fact that the office represented PNS' interests in Kinshasa was better recognized by USAID, the DOA, and the PMU, and DAI upgraded the TA position to include deputy chief of party functions. Ultimately, the deputy chief of party serving there as of 1985 moved up to become the last chief of party of the DAI/MM team.

Air support linking PNS with the rest of Zaire was another element not considered when the project was designed, but judged essential after less than one year of implementation. Using CPF support, the DOA purchased a small single-engine aircraft in May 1978, and DAI added the position of pilot/mechanic to the TA team. Service was progressively upgraded twice as the project moved from the original Lockheed Lasa to a Cessna 130 and then a Cessna 206. Although originally intended only for flights within Shaba Region, the airplane saw frequent use on the Kongolo-Kinshasa route. As of September 1983, however, with a smaller TA team in the field and the hope of integrating project operations permanently with ESTAGRICO, USAID decided that the project should rely on air charters instead of maintaining its own air support capability. In addition, air cargo charter funds were added to the TA contract to facilitate delivery of commodities to Kongolo.

MANAGEMENT OF TECHNICAL ASSISTANCE

Staffing Pattern

The 1976 PP not only foresaw a much shorter-lived project, but also specified a much smaller TA team than DAI/MM were called on to furnish during the first five or six years of PNS. The actual staffing pattern for the period July 1977-September 1986 is shown in Figure 1, and illustrates the greater reliance on expatriate advisory services that characterized the formative years of the project. A list of all individuals who served in TA positions for DAI and MM appears in Annex 1.

In comparing the design estimates with the actual staffing pattern, three important differences stand out:

- The actual pattern shows vacancies and discontinuities that affected several TA positions, most notably for DAI's agronomist; farmer group development/women in development specialist; and in one period, the chief of party;

- The Farmer Group Development, Data Collection and Analysis, and Intermediate Technology subsystems all received specialized TA to a degree not foreseen in the PP; and
- Three positions (Kinshasa logistics officer/deputy chief of party, pilot/mechanic, and warehousing and procurement specialist) were created to meet logistical requirements that had not been adequately planned for in the PP.

Managing a team of this size, containing such a diverse mix of skills and professional backgrounds, posed a difficult challenge for the chief of party. The remoteness of Kongolo and the lack of many basic amenities -- Kongolo was often without either water or electricity for days in the 1977-1979 period -- made for difficult living conditions. Recruitment of qualified personnel proved far from easy, especially in the beginning, when political and military events in Shaba raised questions about Zaire's stability. Failure to maintain the respect and confidence of the team proved the undoing of DAI's second chief of party, who may have had the least cohesive group of individuals during his tenure (1980-1981). Fortunately, when the project reached full maturity (1983-1986), it was blessed with an equally mature, settled, and professionally competent TA team.

Management Demands on the Chief of Party

The chief of party was the contractor's representative and the head of the American expatriate team. Under the terms of the contract and the ground rules observed by the PMU, only the chief of party had the power to authorize dollar expenditures. Although the PP specified that the chief of party would devote a large proportion of his time to supporting the Data Collection and Analysis subsystem, this proved impractical: the job called for a full-time manager, not someone splitting time between management and technical advisory work.

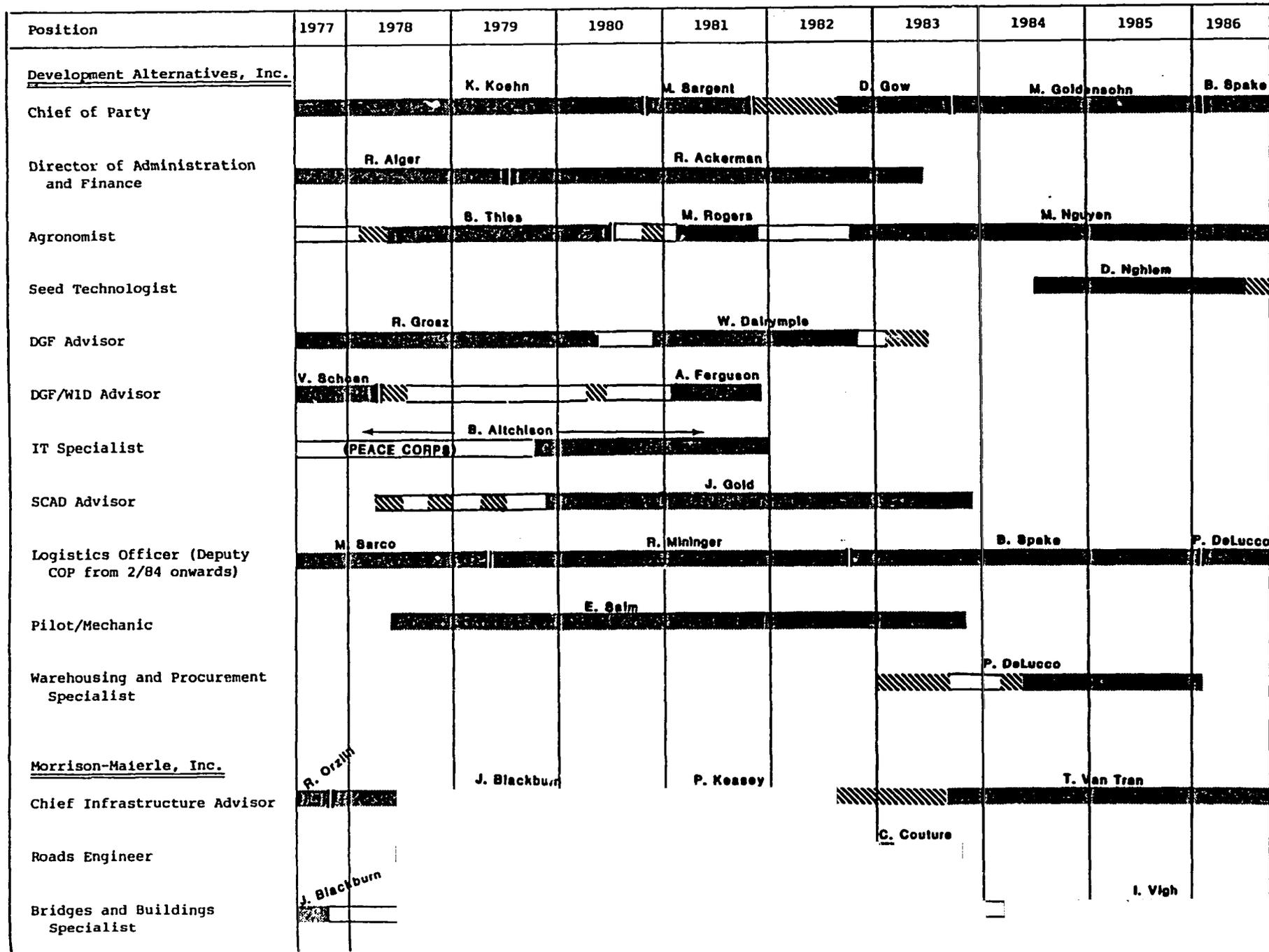
Each chief of party had four main responsibilities: to represent the contract team before USAID and the DOA; to supervise the work of the TA team; to advise the project director and other Zairian members of the PMU, along with the subsystem chiefs; and finally, although never stated explicitly, to safeguard the investment of USAID and the American taxpayer. Rarely did these tasks conflict, although DAI-USAID disagreements over the project's future, and integration in particular, during 1982-1983, put the contractor in a delicate position with regard to the last point.

Normally, any contractual issues raised by USAID were first presented to the chief of party before being addressed to the DAI home office. Even after the home office became involved, the chief of party would be likely to act as interlocutor. Any questions raised by the DOA regarding contractual performance were always addressed to the chief of party for response. On periodic trips to Kinshasa or to Lubumbashi, the chief of party would contact the appropriate authorities of the DOA to inform them about progress made at PNS. There was also regular contact among USAID, the DOA, and the PMU, with the Kinshasa-based deputy chief of party serving as a key intermediary. The preparation of a comprehensive quarterly report on PNS was a contractual obligation of the chief of party. Copies of each report were delivered to the DOA as well as to USAID.

FIGURE 1

PROJECT NORTH SHABA

LONG-TERM TECHNICAL ASSISTANCE STAFFING PATTERN
July 1977 - September 1986



Equipment Maintenance Specialist	R. Lynch					R. Englech									
MAJOR EVENTS	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15
CONTRACT STATUS	Letter Contract		24-Month Contract			Numerous Extensions					New 31.5 Month Contract				

KEY:

 Position filled by resident advisor.

 Position filled on TDY basis.

 Position vacant.

- 1 July 77: Signature of letter contract, arrival of DAI/MM advance party
- 2 March-May 78: Signature of 24-month TA contract through 3/80 (subsequently amended numerous times through 2/84); removal of first GOZ project director; invasion of southern Shaba by rebel forces from Angola
- 3 March-April 79: Record flood of Lualaba River at Kongolo
- 4 July 79: First external evaluation of PNS by DIMPEX Associates team
- 5 December 79: Abrupt demonetization announced by GOZ
- 6 June-July 80: First DAI internal evaluation, followed by amendments to PP extending PACD to 9/83
- 7 October 81: Removal of 2nd DAI Chief of Party, coupled with severe staffing problems on TA team
- 8 January-February 82: Second DAI internal evaluation identifies problems but cites PNS' strengths
- 9 April-May 82: Second external evaluation team recommends immediate shutdown of PNS, not agreed to by USAID
- 10 July-August 83: USAID completes extended redesign based on streamlining project and integration with ESTAGRICO
- 11 February 84: Signature of new technical assistance contract focusing on assisting integration, effective through 9/86 PACD
- 12 June 84: Signature by DOA and ESTAGRICO (EAG) of convention merging Infrastructure subsystem with EAG road and bridge unit
- 13 November 84: Third external evaluation by AID/Washington team focusing on development management issues
- 14 August-December 85: Intensive search for alternative financing sources as ESTAGRICO integration prospects dim
- 15 January-September 86: Project moves slowly but smoothly toward personnel phasedown goals set for PACD

Within PNS, the chief of party was responsible for the performance and conduct of the TA team. Doubtless, there were times when his role of social arbiter was resented by team members, but it was a valid one, in that on several occasions the project director addressed himself to the chief of party over the perceived inappropriate behavior of a team member. All team members were contractually obliged to submit a monthly activities report to the chief of party. Although formal meetings of the full team were not a regular practice, the last two chiefs of party made a special effort to visit all team members daily to discuss progress; hear grievances, if any; and exchange information.

The chief of party's advisory role with regard to the project director had inherent potential for creating major problems. In fact, the debut of PNS was marked by major disagreements between the first director and DAI's first chief of party. The relationship worked best when there was mutual respect and an appreciation of the mutual gain from good working rapport. This was the rule, not the exception, from 1978 onwards. The most effective chiefs of party left the major part of the liaison work with the workers' union, the local government, the GOZ, and the DOA to the directors and shouldered, in turn, the major part of the liaison work with USAID. This is not to say that the director did not speak to the USAID project officer or that the chief of party had no contact with the DOA. But in day-to-day affairs, it was an equitable division of labor that left to the one who understood best the task of sifting the various nuances of the respective bureaucracies.

Leadership During PNS' Nine Years

DAI's first chief of party had the longest tenure, from August 1977 to November 1980. Having worked in Zaire previously and having led an American agricultural project team in Bangladesh, he was well prepared to cope with the many uncertainties of the mobilization phase. This was not an easy role in a location more than 1,000 miles from the capital, in an area that had been largely abandoned by the outside world since its devastation during the civil wars of the early 1960s. While he was chief of party, southern Shaba was invaded by Angola-based rebels; the Lualaba River rose to record flood levels, inundating project facilities at Kongolo; and Zaire abruptly demonetized. In his first year, he tried his best to overcome an adversarial relationship with the first DOA-appointed project director, but was stalemated until there was a change in leadership in mid-1978. In late 1980, however, he left behind a solidly based project that was well accepted by the local farmers and merchants, on the verge of surpassing its end-of-project production and marketing targets, and making visible improvements in the area's decayed transport infrastructure.

The second chief of party was removed by DAI's home office at USAID's request after a stay of less than one year. Of all the chiefs of party, he was perhaps the most qualified technically, being an agricultural economist with long experience in Francophone Africa and an excellent command of production and marketing issues affecting small farmers. Virtually bilingual in French and English, he was an excellent public relations man for PNS and was instrumental in winning the support of the powerful regional governor. Unfortunately, he was badly disorganized and generally deficient in management techniques, with the result that USAID called for his replacement after one year on the job.

For the next nine months there was no full-time chief of party in Kongolo; the position was filled in rotation by DAI home office staff (mainly the first chief of party, who had continued to backstop the project after returning to the United States) or on an acting basis by the American ADF. The lack of leadership was especially damaging during a major external evaluation conducted under USAID sponsorship during April-May 1982, when PNS sorely missed having an effective spokesman to handle complex issues raised by the evaluators.

The third chief of party, a permanent DAI staff member who had made two temporary duty visits to the project earlier that year, arrived with his family in August 1982. This was none too soon as USAID, having already rejected the evaluation team's recommendation that PNS be closed down immediately, confirmed its intention to continue assistance through the scheduled PACD of September 1983. The mission had already begun discussing design changes preparatory to a further three-year extension. The new chief of party, a development anthropologist, felt a strong philosophical commitment to participative rural development. Although this perspective was in line with AID's New Directions policy of the mid-1970s, under which PNS had been originally conceived, it was out of step with the Agency's new emphasis on the private sector. His tour of duty, lasting just over one year, was marked by a continued debate over the future of PNS in which DAI's willingness to execute USAID policy was questioned repeatedly by mission personnel.

The fourth person to serve as chief of party took over in October 1983, and confirmed DAI's commitment to help implement the design changes negotiated between USAID and the GOZ as the basis for continuation of PNS to 1986. Widely experienced in project management in West Africa and bilingual, he exerted authority rapidly and was soon able to elicit a harmonious effort from the expatriate team. During his tenure, PNS ripened as a project, and both the agriculture and the infrastructure components performed superbly.

In 1984, an auspicious start was made toward privatization with the integration of the road brigade into the management structure of ESTAGRICO, and intensive negotiations began for integration of the agriculture component. The regional government was lobbied intensively in an effort to secure a dependable source of local financing. Six months before he departed Zaire, the chief of party moved to Kinshasa to coordinate the search for funding, and assigned day-to-day management responsibility in Kongolo to the deputy chief of party. Unfortunately, by the time of his departure in January 1986, no sure source of funding had been found and ESTAGRICO management was proving itself inadequate to the task of supervising the former Infrastructure Development subsystem of PNS. The integration of the agricultural component was on hold at ESTAGRICO'S request.

The last chief of party spent four years with the project, gaining progressively greater responsibility with each passing year. He took over as logistics officer in Kinshasa in late 1982 and performed so well that the position was upgraded to include designation as deputy chief of party. In 1984-1985 he served as acting chief of party in Kongolo on several occasions; by mid-1985 he had taken over day-to-day management responsibility of the TA team; and thus it was natural that he would be named chief of party when the position opened up in January 1986.

Having previously worked for USAID on a personal services contract, with many years of residence in Zaire before that, he was uniquely qualified to mediate and attain compromises among the various interested parties as PNS moved toward close-down in September 1986. At a time of diminishing resources and progressive layoff of project personnel, he insisted on rigorous administrative and financial discipline without alienating his Zairian colleagues.

This section attempts to formulate the major lessons that can be drawn from PNS, reflecting the contractor's perspective. As such, it probably will not correspond exactly to the lists that each of the project's sponsors, USAID and the GOZ, would assemble based on their respective experiences. Since DAI was involved in the 1976 project design process, however, and was prime contractor for the nine-year life of the project, its observations on lessons learned from PNS might be valuable for the implementation of future development projects in Zaire.

- The fact that the project mounted a coordinated attack on production and transportation problems through a unified management structure was essential to its effectiveness;
- A high degree of operational autonomy is a crucial requirement when a project of this magnitude is undertaken in a remote area poorly served by normal communications and transport links;
- The need for improvisation and creative problem solving was reinforced, indeed encouraged, by the flexible nature of the original design, which did not assume that the project could be tied to a rigid blueprint;
- Although the project design included an extended reconnaissance to develop an understanding of indigenous farming systems, the implementers did not use that information to adapt interventions successfully to the contrasting conditions of Kongolo and Nyunzu zones;
- Even though the original structure containing six subsystems was eventually streamlined to provide clearer focus and greater operational efficiency, the core activities of PNS remained the same over the life of the project;
- The project demonstrated the need for careful sequencing of component activities, particularly the value of initiating activities that show relatively quick impact (for example, road improvements) at an earlier stage than those that have much longer gestation periods. The development of farmer organizations was undertaken for too early in PNS;
- In a remote location such as North Shaba, continuity of experienced personnel (both expatriates and host country nationals) is enormously important, and the learning curve for newcomers tends to be steep, justifying exceptional measures to retain qualified staff;

- The complex issue of sustainability is easily deferred when things are going well, but it is an unavoidable responsibility for both implementers and sponsors. Decisions on scaling down activities and laying off personnel tend to be postponed until late in the project;
- Even if formal project structures such as steering committees do not work well, sensitive policy dialogue between the donor and host government must operate uninterruptedly at a level high enough to influence the resource allocation process, rather than being left to implementers at the field level;
- Responsive and dynamic project management of the kind found in PNS is not a substitute for strict financial controls, hard-nosed analysis of resource and personnel requirements, and realistic budgeting. The last two elements were not given adequate emphasis in PNS;
- Timely use of independent outside audits serves the interests of all parties in projects of this kind, which have multiple funding sources and large local currency expenditures;
- Adequate administrative and logistic support must be programmed from the beginning, rather than being added later on, if a project is to avoid major implementation delays and expensive down-time for technicians and equipment; and
- Finally, effective deployment of costly expatriate personnel against host country staff may mean relying on smaller numbers of expatriates for longer periods of time than was the case in the early years of PNS when the DAI-MM team comprised more than 10 positions.

ANNEX 1

DAI-MM TECHNICAL ASSISTANCE TEAM PERSONNEL

ANNEX 1

DAI-MM TECHNICAL ASSISTANCE TEAM PERSONNEL

DAI LONG-TERM STAFF
(7-12-77 to 9-30-86)

<u>Name</u>	<u>Position</u>	<u>Period</u>
Robert Alger	Director for Administration and Finance	July 77 - July 79
Ron Grosz	Farmer Group Development Advisor	Aug 77 - May 80
Mike Sarco*	Logistics Specialist	Aug 77 - March 79
Kenneth Koehn	Chief of Party and Advisor to Director	Aug 77 - Nov 80
Vicki Schoen	Farmer Group/WID Advisor	Sept 77 - April 78
Ed Salm	Pilot/Mechanic	May 78 - Sept 83
Zeke Thies	Agronomist	June 78 - May 80
Ron Mininger	Logistics Specialist	Feb 79 - Sept 82
Robert Ackerman	Director for Administration and Finance	June 79 - June 83
Brooks Aitchison**	Intermediate Technology Advisor	Nov 79 - Nov 81
John Gold	Data Collection and Analysis Advisor	Nov 79 - Dec 83
Bill Dalrymple	Farmer Group Development Advisor	Oct 80 - Oct 82
Merritt Sargent	Chief of Party and Advisor to Director	Oct 80 - Nov 81
Anne Ferguson	Farmer Group/WID Advisor	Oct 80 - Oct 80
Mike Rogers	Agronomist	Jan 81 - Nov 81
David Gow	Chief of Party and Advisor to Director	Aug 82 - Oct 83
Bruce Spake	Logistics Specialist	Sept 82 - Nov 81
	Deputy Chief of Party	Feb 84 - Jan 86
	Chief of Party	Jan 86 - Sept 86
Minh Nguyen	Agronomist	Sept 82 - Sept 86
Max Goldensohn	Chief of Party and Advisor to Director	Sept 83 - Jan 86
Dai Nghiem	Seed Specialist	July 84 - July 86
Paul DeLucco	Procurement/Warehousing Specialist	May 84 - Jan 86
	Deputy Chief Of Party	Jan 86 - Sept 86

• PSC with USAID/Zaire in support of PNS from 4-1-77 to 8-14-77.

** Spent two years with PNS as Peace Corps volunteer (1977-1979).

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DAI SHORT-TERM TEAM PERSONNEL

Over the 110.5 months of PNS operations, DAI furnished 93.9 person-months of short-term technical assistance. This assistance was weighted heavily in favor of technical agricultural specialties, but included assistance in information systems, management systems, cooperative and farmer group development, land use/remote sensing, grain storage, and training and curriculum development. The person-months were split as follows:

	SPECIALTY	NAMES	PERSON-MONTHS
1.	Technical Agricultural Specialties	Donald Humpal, Fremont Regier	27.1
2.	Information Systems	T. Barclay, C. Sweet, R. Poulin	12.4
3.	Management Systems	J. Buck, C. Sweet	7.7
4.	Inventory Systems	P. DeLucco	12.0
5.	Mechanical Maintenance Systems	F. Garcia, P. Van Loock	2.8
6.	Cooperatives/Farmer Groups	E. Colton, E. Wilcox, G. Hemmings, J-Y Gapihan, L. Matt	8.9
7.	Land Use/Remote Sensing	Elaine Aderhold	3.1
8.	Grain Storage	Carl Lindblad, Roger Vinita, Francis Bolduc	12.3
9.	Training/Curriculum Development	Roger Steinkamp	2.7
10.	Fertilizer-Use Analysis	Dale Anderson	1.3
11.	Seed Multiplication	Gerald St. Andre, Dinh Cil	3.6
		TOTAL	93.9

ANNEX 1 -- Continued

DAI-HOME OFFICE SUPPORT

During the nine-year period of the technical assistance contract, DAI provided a high degree of continuity in its home office management, technical, and administrative support to PNS.

Corporate Oversight:	Charles Sweet	1977-1979
	Tony Barclay	1979-1986

Research and Extension: Economic Analysis:	Donald Humpal Roger Poulin
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Procurement:	David Miller Chris Hennin Mark Mullenax Toa Do
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In addition, three members of the firm's permanent staff served as chief of party and provided valuable TDY support before and/or after their long-term assignments:

Ken Koehn	August 1977 - November 1980
David Gow	August 1982 - October 1983
Max Goldensohn	October 1983 - January 1986

MORRISON-MAIERLE PERSONNEL

<u>Long Term Personnel</u>	<u>Position</u>	<u>Period</u>
Roger Orzilli	Director for Infrastructure	Aug 77 - Nov 77
James Blackburn	Bridges and Buildings Specialist and Director for Infrastructure	July 77 - Sept 80
Richard Lynch	Equipment Maintenance Specialist	July 77 - April 81
John Loftin	Road Rehabilitation Specialist	July 78 - Sept 82
Paul Kabler	Bridges and Buildings Specialist	July 78 - June 81
Phil Keasey	Director for Infrastructure	July 80 - June 82
Robert Engisch	Equipment Maintenance Specialist	May 81 - Nov 85
Charles Calnan	Bridges and Buildings Specialist	July 81 - Jan 84
Claude Couture	Road Rehabilitation Specialist	Sept 82 - Sept 83
Tuoi Van Tran	PRE Director Advisor	July 83 - Sept 86
Imre Vigh	Bridges and Buildings Advisor	Mar 84 - Sept 86

<u>TDY Personnel</u>	<u>Position</u>	<u>Period</u>
John Morrison, Jr.	Infrastructure Coordinator	Nov 77, June 78 Feb 79, Oct 79 May 80, Nov 81 Jan 82, Mar 83 Oct 83, Nov 84, June 85, Sept 86
Al Kraft	Deputy Infrastructure Coordinator	May 81, July 82
Keith Johnson	Spare Parts Specialists	Feb 86

In addition to the above personnel on MM's staff, Francisco Garcia served as an Equipment Maintenance Advisor on a TDY basis under the DAI contract, and later as an AID Technical Services Contractor from May 1985 until 31 August 1986, when he was assigned to another AID project.

Mr. Patrick Van Loock was employed by DAI on a TDY basis from July 1986 until project completion, while Mr. Garcia was on vacation and after he (Mr. Garcia) was reassigned.

The MM home office team providing project backstopping and procurement services remained the same throughout the contract period:

<u>Home Office Personnel</u>	<u>Position</u>
John Morrison, Jr.	PRE Management Coordinator
Al Kraft	Deputy PRE Management Coordinator
Keith Johnson	Procurement Specialist
Larry Bickell	Procurement Accounting Specialist

ANNEX 2

LIST OF CONTRACTOR REPORTS AND RELATED DOCUMENTS

ANNEX 2

LIST OF CONTRACTOR REPORTS AND RELATED DOCUMENTS

The following reports and other written material generated under PNS are currently in DAI files in Washington, D.C. Not included in this list, but also available at DAI, are monthly reports from DAI/MM team members, quarterly reports by the technical assistance team, financial reports, letters and memos related to the project, material written on different subsystems, and copies in French of many of the reports listed.

The USAID mission in Kinshasa and the PNS office in Kongolo also have most, if not all, of the following items.

TITLE	AUTHOR(S)	YEAR
Project Paper, First Revision	AID	1976
Project Paper, Second Revision	AID	1976
Proposal to Assist the Republic of Zaire to Implement the North Shaba Rural Development Project	DAI	1977
Letter Contract Provision	AID/DAI	1977
Outline Scope of Work for First Eight Months	AID	1977
Technical Assistance Contract and Amendments	AID/DAI	1978-1983
Report on Maize Marketing in Shaba Province 1978	Alan Roth	1977
Infrastructure Summary	John Morrison, Jr. (MM)	1978
Integrating Women into PNS	Elizabeth Colton	1978
Plan for Information System Development	Tony Barclay	1978
Agricultural Marketing Survey for USAID Project 025	Alan Roth	1978
Report to USAID on Management Visit	Donald Mickelwait	1979

ANNEX 2 -- Continued

TITLE	AUTHOR(S)	YEAR
Working Toward Self-Sustaining Increases in Small Farmer Maize Production and Real Income	Thomas and Pamela Blakely	1979
Internal Administrative Operating Procedures	Robert Alger	1979
Infrastructure Summary	John Morrison, Jr. (MM)	1979
PNS Project Evaluation Summary	AID	1979
Executive Summary of PNS Evaluation	DIMPEX Associates	1979
Grain Storage Report and Recommendations for PNS	Carl Lindblad	1979
Agricultural Strategies for PNS	Donald Humpal	1979
Moving Maize Production from Forest to Savanna Areas	Donald Humpal	1979
Concept of the Research and Extension Subsystem	Michael Rogers	1980
First DAI Internal Evaluation	Barclay, Poulin, Sargent	1980
Available Information on the Natural and Agricultural Environment of PNS	Donald Humpal	1980
Assessment of Plant Disease Occurrence and Impact in the North Shaba Area, Report No. 1	Benjamin Lockhart	1980
Rapport d'une Mission d'Agronomie et de Vulgarisation Effectuee dans PNS	D. Humpal and F. Regier	1980
Preliminary Report on Identification of Plant Diseases and Assessment of their Importance in PNS	Benjamin Lockhart	1980
Issues in Agricultural Credit	Merritt Sargent	1980

ANNEX 2 -- Continued

TITLE	AUTHOR(S)	YEAR
PNS Research and Seed Multiplication	Donald Humpal	1980
Soil Identification and Investigation	Jack Gamble	1980
Preliminary Report: Entomological Survey of North Shaba	W.H. Whitcomb	1980
Rapport et Recommendations pour le PNS	Grace Hemmings	1980
Soil Test Manual	Jack Gamble	1980
Farmer Group Development Report and Recommendations	Jean-Yves Gapihan	1980
Assessment of Plant Disease Occurrence and Impact in North Shaba, Report No. 2	Benjamin Lockhart	1981
Entomological Survey: Part 2	W.H. Whitcomb	1981
End of Tour Report	Merritt Sargent	1981
Women In Development Advisor's Final Report	Anne Ferguson	1981
Remote Sensing Investigation by ERTS/Zaire in PNS	Elaine Aderhold	1981
Intermediate Technology Advisor's End of Tour Report	Brooks Aitchison	1982
Grain Storage in PNS	Roger Vinita	1982
Second DAI Internal Evaluation	Poulin, Koehn, Buck, Gow	1982
Remote Sensing Cartographic TDY Final Report	Elaine Aderhold	1982

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ANNEX 2 -- Continued

TITLE	AUTHOR(S)	YEAR
Road Maintenance Recommendations	John Morrison, Jr. (MM)	1982
Evaluation of Road Maintenance Capabilities	John Morrison, Jr. (MM)	1982
Infrastructure Planning Report	John Morrison, Jr. (MM)	1982
External Evaluation of North Shaba Project	David Redding et al.	1982
A Three-Year Curriculum for Ngaba Training Research Center	Roger Steinkamp	1982
Report of Audit of Project North Shaba	AID	1982
PNS Special Brigade/ESTAGRICO Integration Report	John Morrison, Jr. (MM)	1982
An Evaluation of the Economic Potential for Fertilizer Use	Dale Anderson	1983
Project Paper Amendment	AID	1983
More Thoughts and Suggestions on the PNS Extension	Roger Poulin	1983
Report on Agronomic Assistance to the PNS A&V Subsystem	Donald Humpal	1983
Production of Maize Seed for North Shaba	R. Poulin, J. St. Andre	1983
Rapport de Mission pour le PNS	Max Goldensohn	1983
Report on Training and Research Assistance to PNS	Donald Humpal	1983
Study of Cultural Practices for Seed Multiplication	Dinh Cil	1984

ANNEX 2 -- Continued

TITLE	AUTHOR(S)	YEAR
PNS Grain Storage Consultant's Report	Francis Bolduc	1984
Report on Adaptive Research, Seed Multiplication, Agricultural Extension and Training for Project North Shaba	Donald Humpal	1984
Farming Systems Research and Extension Within PNS	Lisa Matt	1984
Alternative Approaches to the Maintenance of PNS and ESTAGRICO Rural Roads in North Shaba, Zaire	Roger Poulin	1984
The Supply and Demand of Agricultural Tools in the Kongolo and Nyunzu Zone of North Shaba, Zaire	Roger Poulin	1984
Seed Multiplication Consultancy for PNS	Dai Nghiem	1984
Infrastructure Management TDY Report	John Morrison, Jr. (MM)	1984
Development Management Impact Evaluation	AID	1985
PRE Management TDY Report	John Morrison, Jr. (MM)	1985
PNS Grain Storage Consultant's Report	Francis Bolduc	1986
Private Sector Sustainability for a Public Sector Agricultural Project: End of Tour Report	Max Goldensohn	1986
Procurement TDY Report	Keith Johnson (MM)	1986
PRE Management TDY Report	John Morrison, Jr. (MM)	1986
Final Impact Evaluation of Project North Shaba	AID	1987

ANNEX 3
CHRONOLOGY OF THE NORTH SHABA PROJECT

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1976

PROJECT DESIGN AND APPROVAL

Following preparation of an initial background paper in 1974 proposing a project that would revive agriculture in the once-prosperous northern part of Shaba Region, AID/Washington approved a lengthy Project Review Paper (PRP) in March 1976, setting the stage for completion of the final project design. The PRP had been assembled from diverse technical reports and did not provide a coherent, integrated design. It contained little information on actual conditions in the project area, although it emphasized maize production by small farmers. It also left many administrative, organizational, and logistical questions unanswered. The U.S. Embassy in Kinshasa expressed serious reservations about launching a large project involving substantial USAID funding and American technical assistance personnel in such a remote area of Zaire.

A large design team composed of USAID staff (including William Garvey, Agricultural Development Officer; David Fredrick, Program Economist; Rod MacDonald, Engineer; and Robert Shoemaker, Project Development Officer), agronomist Cit. Kazadi from Zaire's Department of Agriculture, and consultants completed a 300-page Project Paper (PP) between mid-July and early September. DAI furnished the design team leader (Charles Sweet) and marketing specialist (Alan Roth). Anthropologists Thomas and Pamela Blakely, who had been conducting research in the project area for two years, and were very familiar with local (Hemba) social and economic organization, provided key facilitation services for the design team and helped to draft portions of the PP dealing with data collection methods and development of farmer organizations. The PP contained a large quantity of information on indigenous farming practices and farmer priorities vis a vis the project.

Members of the design team devoted almost one month to an extended reconnaissance of the project area. Because of the absence of vehicles and the poor state of the road and bridge network, most travel was done on bicycles and motorbikes, bringing the team into contact with farmers and local leaders in almost 100 villages in Kongolo and Nyunzu zones. The resulting dialogue yielded crucial information for the project design. Among other factors, it highlighted the farmers' keen sensitivity to price incentives for maize and other crops; the lack of competition among private merchants as a result of the deterioration of transport infrastructure; the weakness of existing DOA extension services in the two zones; and significant contrasts in ecology, farming systems, and village political organization within and between the two zones.

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The resulting design sought to mesh GOZ concerns with food security (increasing the production of maize) with USAID's programmatic objective of raising small farmer incomes and living standards. It represented a significant departure from previous agricultural production projects, which had heavily emphasized mechanization, use of imported inputs, and enforced resettlement (*regroupement*) of farmers. Organizationally, it called for an autonomous Project Management Unit (PMU) that would report to the DOA and direct the activities of six functional project subsystems. The PP was completed in time for authorization in AID/Washington, and signature of the Project Agreement in Kinshasa, before the end of the U.S. fiscal year on 30 September.

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STARTING FROM SCRATCH

The office and housing facilities that PNS would require in Kongolo, Mbulula, and Nyzunu were badly run down, and in some cases abandoned, when the project design team visited the area. The buildings bore the scars of Zaire's civil disturbances in the early 1960s and the subsequent collapse of public services and private sector activity. Kongolo, once a thriving rail and river transport center, was labeled a "dying town" in the Zairian press.

Unfortunately, for a project that depended on rehabilitation of houses, warehouses, and offices, as well as major offshore commodity procurement, PNS benefited from little detailed advance planning. For example, repair work on buildings in Kongolo did not start until May 1977; the only vehicles available when the agricultural season started in September were gasoline-powered Chevrolet pickups; and the project designers had not anticipated the need for logistical and communications support at the national (Kinshasa) or regional (Lubumbashi) levels.

Thus PNS, already handicapped by an extremely remote location, faced a formidable array of start-up problems. In time, each of these deficiencies was remedied, but they made it impossible for the project to establish more than a symbolic presence in North Shaba during the 1977-1978 agricultural campaign.

By June 1977, the GOZ had named a project director and a small number of technical cadres, almost all recent university graduates, who were later to become chiefs of various subsystems of PNS. The director was an agricultural scientist with no prior management experience who had been working on a Ph.D. at Iowa State University. USAID, which had been financing his graduate studies through PNM, formally requested his return to Zaire. The GOZ also made a substantial amount of funds (1.3 million zaires, equivalent to \$1.78 million at the prevailing exchange rate) available to the project.

The competitive process to select an American technical assistance contractor extended from March to July. DAI and its engineering subcontractor, MM, were awarded the contract following an evaluation process that included intensive interviewing and videotaped sessions in which proposed team members were given problem-solving tasks.

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An eight-month "letter contract" was negotiated and signed by DAI and USAID to cover the start-up phase of PNS. DAI and MM had members of their advance party on the ground in the project area by mid-July, less than one week after the award. Other personnel and their families arrived in Zaire soon afterward. The slow pace of housing rehabilitation in Kongolo and Mbulula, however, prevented the TA team from being fully operational until January-February 1978. In the intervening months, team members shuttled between Lubumbashi and Kongolo.

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STAFFING AND ORGANIZING PROJECT SUBSYSTEMS

Although a small program of maize variety trials at six locations had been started in September-October 1977, it was not until early 1978 that PNS began to function inside the project area. It was at this time that Zairian staff and DAI/MM personnel began to acquire a first-hand knowledge of conditions and local communities in the two zones, with most activity being concentrated for logistical reasons in what were subsequently designated as the Kongolo and Mbulula "sectors" (the eastern half of Kongolo zone, on the right bank of the Lualaba River).

The first five months of the year, however, were overshadowed by a serious conflict between the project director and the TA team. This conflict was partly philosophical (the director stated his opposition to many of the basic assumptions in the project design), and partly due to basic differences in management style (he was unwilling to delegate authority to or share information with the subsystem chiefs, and refused to travel in the project area without a military escort). The fact that the director had been forced to abandon his Ph.D. studies to take the post was yet another source of difficulty.

Joint action by the DOA and USAID eventually broke the stalemate: the director was allowed to resume his studies in the United States, and a highly qualified interim director was named in June. DAI's chief of party also took a one-month study break from PNS as part of the cooling-off agreement. The arrival of the interim director boosted the morale of the entire team: he had previously directed DOA projects in Shaba Region, enjoyed the complete confidence of the Secretary of State for Agriculture, and had a thorough understanding of the Department's policies and procedures.

The subsystems of the project geared up at different rates; the lack of qualified second-tier staff below the subsystem chiefs was a serious problem in most cases. Prior to the 1978-1979 agricultural campaign, a group of extension agents was recruited, trained, and settled at 17 locations designated as *centres agricoles*. Most came from within the project area. They were young and essentially untrained when they joined PNS, but they were the nucleus of what later became a highly effective farmer-oriented extension service in the Adaptation and Extension (A/V) subsystem.

Among the other subsystems, Farmer Group Development (DGF) hired six *animateurs* and assigned them to work in each of the three sectors in the project area; Intermediate Technology (TI) produced and sold hundreds of hand-tools to

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project area farmers; and Infrastructure concentrated its efforts on housing and facility rehabilitation, since no heavy equipment for road work reached the project area until the end of the year. The Data Collection and Analysis (SCAD) subsystem was hampered by a lack of trained staff, and its monitoring role in relation to the other subsystems remained ambiguous, thereby limiting the free flow of information. The Marketing subsystem had no Zairian staff until very late in the year.

The DAI technical assistance contract was formalized in March 1978, for a subsequent period of 24 months. The contract assigned DAI and its subcontractor, MM, primary responsibility for offshore commodity procurement, and this step dramatically shortened the interval between orders and deliveries to the project site. Major strides were also taken in providing the project with reliable radio communications between Kongolo, Kinshasa, and Lubumbashi, and within the project area, linking Kongolo with Mbulula and Nyunzu. Equally important, the project acquired a single engine airplane in mid-year, and DAI was able to employ a qualified pilot/mechanic who maintained the aircraft at Kongolo and provided reliable air support over the next five and one-half years.

The TA team at PNS was never at full strength during the year. No expatriate agronomist was on board until June, although DAI had nominated several candidates during the preceding nine months, and the women's rural development specialist position was filled only by temporary consultants after March, when the original technician resigned. The majority of the expatriate team, however, had established effective working relationships with their Zairian counterparts by year's end.

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EXTERNAL SHOCKS AND STEADY INTERNAL PROGRESS

Although the project felt the effect of several adverse external events, 1979 was a year in which PNS began to deliver tangible benefits to the communities in the project area. For the first time, the Infrastructure subsystem was able to show visible results in improving the transport network; adoption of the improved Kasai I maize seed more than tripled over 1978, with over 3,000 hectares planted; and the project's extension personnel and *animateurs* reached some 4,000 farm families.

The DOA named a new permanent project director in February: Cit. Mateso Wabubyula, who was to remain with PNS for more than five years. He became an effective spokesman for the project at the regional level, and his low-keyed management style reinforced the delegation of responsibility to the Zairian subsystem chiefs.

The two major setbacks experienced during the year were outside the control of project management. In March and April, the Lualaba River reached record flood levels at Kongolo, and the workshop area immediately above the river bank was inundated. This not only disrupted the activities of the Infrastructure and TI subsystems, but it also cut off all rail transportation to Kongolo for four months, depriving the project of fuel, cement, and other badly needed commodities. The flood had little or no impact on production, since it came at the end of the rainy

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season, when almost all crops planted in late 1978 had been harvested, but resulting fuel shortages seriously hampered the marketing campaign. Shipments of maize from the railheads in the two zones totaled 12,353 tons, an increase of less than 1,000 tons over the previous year.

The second major crisis occurred when the GOZ announced a demonetization just before the end of the year, leading to a drastic liquidity crunch throughout the rural areas. In North Shaba, where the nearest bank was in Kalemie, 300 km from Kongolo, many farmers and smaller merchants had no means of exchanging their old zaire notes for new ones. In addition, GOZ budgetary disbursements to the project virtually ceased for several months late in the year. This led to large-scale temporary layoffs because the project was unable to meet its growing payroll.

USAID sponsored a midterm evaluation of PNS midway through the year. The evaluators concluded that it was too early to judge whether the project would have a significant positive impact on farmers in the project area. They questioned the project's reliance on improved seed and cultivation practices in the absence of chemical fertilizers, but were unable to convince USAID that the introduction of fertilizers would be economically justified.

Early in 1979, USAID had also negotiated an agricultural marketing loan with the GOZ that was designed to increase private merchants' access to trucks and grain mills without forcing them to pay astronomical black market prices. North Shaba was designated as a priority target for these commodities. But repeated postponement of delivery dates, the merchants' preference for Japanese trucks (the loan required use of U.S. models), and high collateral requirements under the loan eventually ruled it out as a source of assistance. As the year ended, there was no firm evidence that private marketing channels could absorb a substantial increase in North Shaba maize production if the latter actually materialized.

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LEARNING FROM EXPERIENCE

Although it was by no means obvious at the time, 1980 was the year in which the project's efforts to encourage increased maize production began to pay large dividends. The year was marked by several transitions, including departure and replacement of five of the original DAI and MM technicians; changes in the Zairian leadership of two subsystems, A/V and SCAD; and a partial redesign of the project based on experience gained during the first three years.

Even as these changes were taking place, PNS remained vulnerable to the GOZ's financial problems. At the end of March, for example, neither the 1979 investment budget (BI) allocation nor the initial tranches of the 1980 recurrent budget (BO) and CPF fund allocations had been received. During the second quarter, part of the CPF allocation was released, allowing dry season road and bridge work to begin and providing funds to pay for backlogged orders of cement, fuel, and other materials. From this time onward, the CPF mechanism accounted for the vast majority of the local currency support that the project was to receive.

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An amendment to the Project Agreement was signed by USAID and the GOZ to incorporate several changes resulting from the redesign, which coincided with an internal evaluation conducted by DAI home office staff. The major elements of the redesign included extension of USAID support for an additional year, through September 1983; increases in both the dollar and zaire budgets to adjust for inflation and a longer project duration; attempts to sharpen the focus of each subsystem's activities; mechanisms to ensure a more reliable flow of GOZ funds to the project; and quantitative reductions in the original PP targets for agricultural production and marketing.

The decision to scale down the project's targets reflected a generally held view that PNS' original designers had been too optimistic. The rate of implementation progress since mid-1977 had been disappointingly slow, and even with the addition of an extra year, neither USAID nor the GOZ expected to reach the PP goals for production, marketing, numbers of farmers adopting seed and recommended practices, or kilometers of road rehabilitated and bridges built or rebuilt.

There was one hint, however, that the redesign may have overcompensated for the optimism in the original PP. Marketing results in the 1980 campaign (purchases of maize planted in late 1979) showed a healthy increase of almost 50 percent on the preceding year, reaching 18,199 tons. The redesign, which was completed before the 1980 marketing figures were known, had specified an end-of-project target of only 25,000 tons, down from 43,000 tons in the original PP.

An unresolved issue dating from the early months of the project was the unfinished state of the research and training facilities at Ngaba, near Mbulula, where the A/V subsystem was headquartered. Ngaba represented a significant drain on funds, supplies, and personnel that could have been devoted to road and bridge work. Although construction plans were scaled back during 1980, the facilities were far from operational when the first DAI agronomist completed his two-year tour in June.

By the end of the year, PNS extensionists were resident at 57 *centres agricoles*, a number that approximated the eventual geographic coverage attained in the two zones of Kongolo and Nyunzu. Some 35 tons of Kasai I seed were distributed for the main growing season starting in September, but contradictory policy signals from regional authorities in Lubumbashi, who mandated that repayment should be made in kind rather than cash, complicated efforts to obtain repayment from farmers.

Kenneth Koehn, DAI's original chief of party, left Zaire in mid-November after a tour of almost three and one-half years. His successor was an agricultural economist who was untested in a management role, and who inherited an expatriate team of diverse personalities as well as an extremely complex project.

MARKETING SURGES DESPITE STAFFING PROBLEMS

This year marked the beginning of the middle phase in the project's history, a period that produced impressive achievements in terms of production and marketing increases, but raised complex questions about the sustainability of those gains. As a result of a combination of excellent growing conditions in the late 1980-early 1981 rainy season, and the arrival in the project area of numerous new trucks (mostly Japanese) operated by private merchants, the quantity of maize purchased and shipped by rail rose to 32,383 tons, a level 78 percent above the 1980 total and, equally striking, 30 percent above the end-of-project target established in the redesign.

The success of the marketing campaign initially surprised the project's sponsors, USAID and the DOA. Within PNS, however, the SCAD subsystem had challenged conventional wisdom and come very close to predicting the actual production and marketing levels achieved in 1981 on the basis of its farm surveys in the 1980 growing season. From this point forward, SCAD's reports enjoyed greater respect within the project and with PNS' sponsors.

Although improved Kasai I maize seed was being adopted widely throughout the project area, PNS did not yet have a coherent extension program with proven packages of recommendations adapted to different farming systems in the two zones. The Zairian A/V subsystem personnel still rigidly adhered to a uniform CIMMYT/PNM-based production package that had been based on the use of chemical fertilizer, even though PNS did not have access to fertilizer. DAI's original agronomist had been ineffective, and there was a costly seven-month gap (June 1980-January 1981) between his departure and the arrival of his replacement.

Despite these technological limitations, PNS was providing an effective stimulus to production, and it was the breaking of transport blockages that appears to have made the difference. Fuel shortages and the requirement for extensive on-the-job training restrained productivity in the Infrastructure subsystem, but by the end of the year the subsystem had opened up 254 km of secondary and rural access roads, and constructed 19 water crossings, shifting to a reliance on culverts rather than masonry arches. Responding rapidly to these improvements, private merchants committed vehicles and scarce working capital to the North Shaba market and, for the first time in more than a decade, began to compete for maize at the village level and the farm gate.

During 1981, the DAI/MM team experienced additional turnover, some of which proved very disruptive to project operations. The most damaging was the removal, at USAID request, of Chief of Party Merritt Sargent, who left the project in November. Despite obvious talents and good rapport with Zairian officials and project staff, he had not attended to the organizational details of his job and had lost the confidence of many contract team personnel. Former Chief of Party Kenneth Koehn returned several times to fill the post on an interim basis while DAI searched for a permanent replacement.

Other changes included the dismissal of the second expatriate agronomist, who had served less than 10 months, because of personality clashes with his Zairian counterparts; turnover in two of MM's four technical assistance positions in the Infrastructure subsystem; and the end of tour of Brooks Aitchison, TI specialist, after four years of excellent service, two as a Peace Corps volunteer and two as a DAI contract employee.

As the year ended, PNS presented something of a dilemma to its official sponsors. There were some obvious areas of weakness or uncertainty: for example, it was clear that the TI subsystem would never be financially viable in its own right, and there were technical deficiencies in some of its products; after four years of assistance, the DGF subsystem had very little to show in the way of results; and the quality and quantity of expert assistance to the A/V subsystem had been inadequate from the beginning. In contrast, many things were working, most notably in the response of producers and merchants to project interventions. With only 21 months remaining before the scheduled PACD of September 30, 1983, a heated but necessary debate about the project's future was about to start.

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CONFLICTING EVALUATIONS AND A CLOUDY FUTURE

In the first six months of 1982, PNS was subjected to careful scrutiny by two evaluation teams, the first composed of four DAI home office staff, and the second assembled by USAID. These evaluations produced diametrically opposite conclusions, thereby compounding rather than resolving the dilemma about the project's future. Yet basic project operations continued to build on the achievements of prior years, and, in particular, the Zairian subsystem chiefs continued to mature in their roles as mid-level managers.

DAI's internal evaluation was prompted in part by the leadership vacuum at the chief-of-party level: the firm had been unable to find a suitable replacement for Merritt Sargent. The evaluators took note of this problem, as well as other shortcomings in project management, but gave equal weight to the fact that PNS had been engaged in an unending struggle to obtain adequate financial and personnel support from the GOZ. Their report, while not offering a specific institutional formula for sustaining successful activities beyond the PACD, attempted to put the process of managing PNS in a developmental perspective. Its conclusion was that the project had been cost-effective and that most if not all of the observed management problems could be remedied.

By contrast, the USAID evaluation team of nine individuals found fault with virtually every aspect of the project, both technical and managerial. They recommended an immediate closedown of USAID assistance or, failing that, termination of the DAI contract and installation of a new contractor. On examination, however, the individual team members' sections of the report did not consistently support this radical recommendation. There were numerous errors of fact and interpretation, some apparently resulting from weak or nonexistent French

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language skills among the team. Subsequently, the U.S. Embassy, the USAID mission, and AID/Washington's Africa Bureau decided against implementing the team's recommendations.

But both evaluations had underscored the financial fragility of PNS, as a result of the GOZ's budgetary problems and the high probability of collapse if USAID assistance ended abruptly at the PACD. USAID accordingly began to study its options after first confirming that its support would not be interrupted before September 1983. The option that appealed most to the Agricultural Development Officer, Richard Peters, and eventually to mission management, involved first scaling down project operations by eliminating "non-essential" subsystems (specifically TI and DGF), and then integrating "essential" functions with ESTAGRICO, a cotton company based in Kongolo. This option formed the basis of a further redesign process that extended over 12 months before the GOZ and USAID came to terms.

DAI's role during the redesign period was an uncomfortable one, from the standpoint both of the firm and USAID. David Gow, who assumed full-time chief of party duties in August 1982, was openly skeptical about the viability of ESTAGRICO and the wisdom of the proposed integration plan. For much of the year that followed, he was at odds with USAID; but his concerns were shared by many of the Zairian cadres at PNS, as well as GOZ officials at the regional level and in DOA headquarters. USAID's declared interest in "privatizing" PNS represented a major policy shift, one consistent with Reagan Administration ideology, but not officially sanctioned in Zaire.

Results from the 1982 marketing season showed a slight (6 percent) drop off from the record levels of 1981, largely as a result of erratic rainfall in the late 1981 growing season, which reduced the area planted to maize, and farmer resistance to paying the price set by the project for improved seed. One interesting development, not sustained in later years, was the promotion of direct sales of maize to millers by farmer groups (500 tons), allowing the groups a margin similar to those of the large private merchants who dominate the North Shaba market.

For the first time, PNS benefited from high quality technical assistance in the agronomist position with the arrival of Minh Nguyen in September 1982. Within days of his arrival he was able to organize and implement a modest adaptive program of trails for rice, manioc, and peanuts, and proceeded to expand the variety trials of maize and the seed multiplication program. This gave badly needed direction and inspiration to the A/V subsystem, enhancing its value to project area farmers.

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USAID CHOOSES THE PRIVATE SECTOR OPTION

This was to have been the final year of PNS under USAID assistance, based on the timetable laid out in the 1980 amendment to the Project Agreement. By now, however, it was obvious that a complete cutoff of support would doom the project, since the DOA could not be counted on to pick up the recurrent cost burden of continued operations. In contrast with the 1980 redesign, which had merely fine-

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tuned the basic elements and assumptions of the project, and had been a collaborative effort between DAI and USAID, the 1982-1983 redesign involved more drastic changes. It was almost entirely an in-house effort by USAID staff, and their communication with the TA team and Zairian PNS personnel was sporadic and occasionally contentious.

The main bones of contention were the issues of closing down the DGF and TI subsystems on the one hand, and the concept of merging PNS with ESTAGRICO on the other. USAID insisted on a streamlined project, citing the previous year's evaluation and other evidence to argue that DGF activities were peripheral to project goals because they were not income-generating, and that TI's production of tools and implements for the local market was uneconomic. The PMU resisted these closedown initiatives, but was unable to mount a convincing case. DAI's technical advisor to TI had not been replaced when he left late in 1981, and the subsystem had been poorly managed in the interim, so it died when USAID funds were cut off.

The case of DGF was more complex, since the organizational focus of that subsystem tended to overlap with and complement the extension programs of A/V. The PMU eventually decided to subsume activities supporting farmer groups, along with the most capable DGF personnel, within the A/V subsystem. The expatriate advisor to DGF departed in June, at USAID's request, several months before her contract was due to end.

ESTAGRICO's motives for merging with PNS proved difficult to assess, despite the fact that the project was promoting a profitable crop (maize) while the company was losing money in the cotton sector at an alarming rate. Many of ESTAGRICO's difficulties resulted from structural problems in the cotton industry, but the company itself was sloppily managed and its absentee principal owner repeatedly failed to upgrade its expatriate staff, while restricting the authority of top Zairian employees. The owner bargained hard for concessions and guarantees of USAID financial support in return for a commitment to integrate his company with PNS.

Lacking any plausible alternative, USAID made integration with ESTAGRICO the centerpiece of the redesigned PNS. Because the new plan called for adding three more years and \$5 million to PNS, it required approval by AID/Washington. Although this was secured in May, many of the details of implementation were not addressed in the PP amendment. Negotiations with the GOZ went down to the wire in late September, partly because of Zaire's difficulties in servicing loans made previously by the U.S. Government, and partly because senior DOA decision makers were dubious about the integration plan.

DAI's posture regarding the project's future also remained uncertain. Chief of Party David Gow's decision to return home for family reasons was welcomed by USAID, which sought assurances that DAI would do its best to make the integration succeed if it continued as contractor. The firm, for its part, wanted to name its own new Chief of Party rather than having a candidate imposed on it by USAID. In August 1983, DAI introduced Max Goldensohn as its choice for the slot, and his candidacy was accepted, allowing a smooth handover in October.

Although PNS was assured of three additional years, DAI and MM operated under a series of stop-gap amendments to their old (March 1978) TA contract until February 1984, when a new contract was signed with a scope of work reflecting each team member's responsibility for assisting the integration process. This contract was awarded non-competitively after a formal solicitation that attracted no qualified competitors.

PNS not only had a new lease on life, but it also had reached maturity: the combined effects of agricultural and transport interventions were now seen in maize marketing (40,644 tons were shipped in the 1983 campaign), increased exports of other crops from the project area, heavier traffic flow on the roads, and increased commercial activity in Kongolo and the other towns. An efficient seed production operation based on contract farming had been set up at Ngaba, eliminating the project's previous dependence on purchases of seed from the collapsing Kaniama-Kasese farm in southern Shaba. The road rehabilitation and water crossing construction program specified in 1980 was virtually complete, and the Infrastructure subsystem was poised to extend its work onto the left bank of the Lualaba (the western portion of Kongolo zone), from where ESTAGRICO drew most of its cotton.

Moreover, PNS had finally begun to provide direct support to production of other crops besides maize, as envisioned in the original 1976 PP. With an experienced expatriate agronomist in place, the A/V subsystem was conducting on-farm trials and demonstrations of upland rice, soybeans, peanuts, and manioc varieties.

With all its limitations -- especially its previous record of promoting a single crop that offered poor returns to farmers -- ESTAGRICO had been judged the most promising institutional vehicle for carrying these activities forward. Intensive negotiations began late in the year between the company and the PMU, with the latter representing the DOA, to define the terms, conditions, and timetable for integration.

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THE INTEGRATION PROCESS BEGINS

Although negotiations for a new TA contract were not completed until late January, with the contract becoming effective on 15 February, the DAI/MM team and PNS personnel began the new year with renewed confidence. The project was now entering the final -- and by far most successful -- phase of its life. Despite the ambiguities and obstacles to successful integration with ESTAGRICO, PNS was a going concern with results unmatched in virtually any other donor-assisted food production project in sub-Saharan Africa.

There was one substitution in the expatriate team for medical reasons (MM's bridges and building specialist), and two positions were added (a seed technologist and a warehousing/procurement specialist) during the first half of the year. The personnel now in place were destined to stay with the project for at least two more years, and in most instances until the PACD.

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On the Zairian side, the PMU experienced a smooth transition to new leadership when Cit. Mateso, the director, departed for a new job in the private sector after five and one-half years with the PNS. His successor, Cit. Watula Kisambalwa, arrived in July. The assignment of this experienced administrator signaled the strong support of the DOA, which now recognized PNS as its most successful agricultural production project.

One major theme of project management in the final three-year phase was greater attention to career development and training for PNS' senior and middle-level Zairian cadres. This commitment resulted both from a recognition that the original PP had not devoted many resources to training, and from the fact that several of the subsystem chiefs and their immediate subordinates had served for many years in North Shaba and deserved a chance to advance themselves professionally. One avenue was the placement of PNS staff in short courses in the United States, for example, at the University of Pittsburgh and Texas Tech University (development administration and management), and Kansas State University (grain storage). A second was the nomination of several subsystem chiefs for long-term Master's degree training with funding from USAID's Applied Agricultural Research and Outreach Project.

The streamlined project now consisted of two principal components, A/V and Infrastructure. The latter was selected as the first candidate for integration with ESTAGRICO, largely because PNS and the company already had a history of collaborating on road maintenance in those parts of the project area where significant amounts of cotton were grown. In those locations, ESTAGRICO was responsible for manual maintenance of roads rehabilitated by PNS.

ESTAGRICO, however, lacked the equipment, technical capacity, and financial resources to take direct control of the project's Infrastructure subsystem. Negotiations with the company therefore revolved around means of retaining the internal structure of the subsystem while placing it under the company's overall control and ensuring that its work program addressed the needs of both organizations. The company was especially interested in rehabilitating the road and bridge network on the left bank of the Lualaba (the western portion of Kongolo zone), which had been excluded from the project area originally because its production potential for maize and food crops was much lower than areas on the right bank.

The outcome of these negotiations was a convention, signed by the DOA and the company in June, that created a new entity, PRE, under ESTAGRICO. PRE continued to be directed by the former subsystem chief, Cit. Otoka, and MM's senior engineer, Tuoi Van Tran, remained as PRE's chief advisor. Although ESTAGRICO management did not involve itself at all in day-to-day operations, the convention entitled the company to charge a 15-percent fee on all local (zaire) costs in the PRE budget.

With these arrangements settled, PRE expanded its geographic coverage and substantially increased its productivity. The year 1984 saw 164 km of roads opened in the traditional PNS project area and the left bank, along with 32 water crossings completed in the two areas combined.

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Preliminary discussions also got underway concerning the more complex issue of integrating agricultural operations. The status quo reflected a division of labor based on crops between extension staff of ESTRAGRICO and PNS, often in the same locality. In general, the A/V personnel of PNS were far better trained, more highly motivated, and better paid than their company counterparts. Informal collaboration was already occurring, but the benefits flowed mainly in one direction: A/V helped the company by ploughing some cotton seed fields, including cotton extensionists in field days and other training exercises, and providing technical support to variety trials.

Marketing results in 1984 showed a moderate decline from the previous year: maize shipments from project area railheads reached 35,568 tons, and the quantities of palm oil, peanuts, and manioc also rose although the volume was much smaller than for maize.

An AID/Washington evaluation team spent several weeks at PNS during November, having included the project in a series of impact evaluations treating the subject of development management. In contrast with the 1979 and 1982 evaluations, this one reached generally favorable conclusions, although it did not address any of the current questions affecting integration.

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CONTINUED FINANCIAL UNCERTAINTIES -- INTEGRATION STALLED

Over the course of this year, which once again broke previous records in the marketing campaign, it became increasingly clear that ESTRAGRICO on its own could not serve as a viable permanent host for PNS. Structural problems in the cotton sector continued to worsen, as did the company's own financial condition. The Belgian investor who now owned it outright grew wary of taking on responsibility for PNS' agricultural operations without an ensured source of financing; USAID, for its part, maintained the position that the GOZ would have to find revenue sources at either the national or regional levels to support those operations within ESTRAGRICO. Although CPF support had been made available, during the 1983-1986 extension of PNS, its continuation for more than one year beyond the PACD was specifically ruled out.

There were many unanswered operational questions, too, concerning the way in which an integrated agricultural extension service would function under ESTRAGRICO's management. High turnover and low levels of competence continued to plague the company's expatriate staff at Kongolo, and the absentee owner remained unwilling to vest real authority in the Zairian cadre assigned to ESTRAGRICO by the DOA. Discussions dragged on for much of the year, and a draft convention was prepared and then revised several times, but neither the company nor USAID was any longer confident that integration would actually occur. In the meantime, PRE continued to operate successfully in its nominal status as a unit of ESTRAGRICO, but with far stronger operational ties to the PMU.

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As integration prospects dimmed, the project director and DAI's Chief of Party began to devote almost all of their time to a search for extrabudgetary funding sources that might guarantee PNS' future beyond the termination of USAID assistance. Chief of Party Max Goldensohn relocated to Kinshasa in August, and Deputy Chief of Party Bruce Spake shifted to Kongolo, where he was to be based until the PACD, formally succeeding Dr. Goldensohn as chief of party in mid-January 1986. Director Watula and Dr. Goldensohn shuttled between Kinshasa, Lubumbashi, and Kongolo, attempting to pin down who was responsible for allocating various revenues and then seeking their commitment to fund specific components of PRE or the agricultural operations of PNS.

By year's end, USAID instructed the TA team to give priority to planning for a phasedown of both PRE and A/V activities during the remaining months before the PACD. Since 1984, USAID has consistently urged personnel reductions within the project to avoid serious disruptions when the PACD eventually arrived, but the PMU had been reluctant to make them. At this point, the phasedown called for firmness, pragmatism, and diplomacy, anticipating the likelihood that ESTAGRICO would eventually disengage from the convention that gave it responsibility for PRE.

Despite North Shaba's proven record as supplier of food for Lubumbashi and adjoining areas, regional authorities were unable to facilitate marketing operations during 1985 as they had in the past. There were drastic shortages of credit needed for working capital by private merchants, a scarcity of fuel, and shortages of sacks for packing and transporting maize. The situation did not clear up until June, well into the marketing campaign, and it was only in the fourth quarter of the year, when marketing operations are usually finished, that shipments reached and then greatly surpassed previous years' levels.

The year-end total for maize exported from project area railheads was 56,724 tons, of which more than one-third was shipped in the final three months, when marketing activity has normally slowed to a trickle. At the farm gate, however, the effect of merchants' liquidity problems was a decline in the price paid per kilo of maize to 3 zaires from the previous year's level of 4 zaires, with potentially negative effects on production incentives for the 1985-1986 season. Even so, the gross receipts of area farmers exceeded 170 million zaires, equivalent to about \$2.8 million dollars at the prevailing exchange rate. Continued expansion in the quantity and variety of consumer goods available in shops and stores at Kongolo, Mbulula, Nyunzu, and smaller centers testified to the increased purchasing power of project area farmers.

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MOVING TOWARD CLOSEDOWN

The original designers had forecast that PNS would receive USAID assistance only through September 1982, and that the GOZ would pick up its recurrent costs and continue it for an additional four years. By 1980, however, it was clear that such an early transition was not feasible; and by 1983, USAID had placed its bet on privatization, with the objective of terminating dollar funding, and all but a minority share of CPF support, by September 1986.

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As 1986 began, USAID had reconfirmed its intention of disengaging from PNS by September, but it was obvious that ESTAGRICO lacked both the will and the capability to fulfill its designated role. The PMU, the DOA, and USAID had three major concerns:

- Finding a new organizational home for PRE, which proved to be the easiest matter, since Office des Routes was willing to assume this function, and appeared to have better access to funding for road maintenance than it had three years previously;
- Determining how, and in what organizational framework, A/V subsystem activities would be supported beyond the PACD. This issue brought out differences between the agendas of the PMU, which anticipated continuation of PNS' agricultural activities under DOA control, and USAID, which preferred to place them under the umbrella of the new Central Shaba Project; and
- Streamlining the personnel roster of the entire project staff, including PRE, and reducing operating budgets to prepare for the post-project situation.

Resolution of these issues posed a major challenge for the TA team. It is always easier and more satisfying to help build something than to help dismantle it. Yet the team, and Chief of Party Bruce Spake in particular, played its appointed role with a good mix of tact, firmness, sympathy, and patience. Not too surprisingly, some hidden benefits emerged in the phase-down process as the PMU considered how best to utilize its diminishing resources. Measures of efficiency and relative value began to be applied far more rigorously than in the past -- a healthy sign.

Nonetheless, when the PACD finally arrived, a policy consensus did not yet exist between USAID and the GOZ regarding the future of agricultural development in North Shaba. With the signing of a Project Agreement for the new Central Shaba Project, a broad structure had been created that would allow continuation of external assistance to road maintenance, extension, and seed multiplication activities, but the two sides had different preferences regarding resource management and control within that new structure. Perhaps most important, the GOZ had still not come to grips with the financing issues that had dogged PNS throughout its lifetime. In many ways this policy stalemate was tragic, for the economic revival of North Shaba had created a potential revenue base that could easily have supported the recurrent costs of the critical services needed over the long term.