



Final Report of Technical Consultancy

of

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and Team Leader (1986-1987)**

Chemonics International Consulting Division

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PREFACE

This document is the final report of the Chemonics Extension and Community Organization advisor, Peter Hughes-Hallett, who worked for four years (May 1983 - June 1987) in the Natural Resources Management Project (NRMP) of the Natural Resources Ministry of Honduras. This project had commenced activities in 1982 and is programmed to terminate in 1989, although plans do exist for the work to continue under a new project.

The document mainly concentrates on the work carried out by the advisor, but it also includes certain information about the general project situation and the work of other members of the Chemonics technical assistance team. Obviously, for further information the reader is advised to consult other documents, such as the final reports of other team members, project evaluations, etc. A complete list of which is given in annex 1.

The report is divided into three principal sections and one appendix. The Introduction presents a brief description of the NRMP project, its setting and development. The Activities and Achievements Section presents the scope of work, the principal activities carried out and the results obtained. The Recommendations are divided into two parts: the first refers to general recommendations for a similarly placed extension specialist and the second part contains more NRMP-specific recommendations.

Although the report concentrates on the consultant's work, it should be borne in mind that he worked both with national counterparts and as an integral part of the NRMP specialist team, the project's planning and field support group that was integrated by Chemonics team members and Honduran professionals. It follows that no result (either good or bad!) is solely attributable to him, regardless of any impression to the contrary that this document might convey.

Table of Contents

	Page
SECTION I: The Introduction	1
1.1 The Setting	1
1.2 The Natural Resources Management Project	2
1.3 A Brief History of the NRMP	5
SECTION II: Activities and Achievements	8
2.1 Terms of Reference	8
2.2 Observations about the Terms of Reference	9
2.3 Improve Extension Service of NRMP	11
2.4 Use of Demonstration Plots	12
2.5 Working with Contact Farmers	14
2.6 Use of Incentives	15
2.7 Development of Work Plans	17
2.8 Training of Personnel	18
2.9 Site Selection for Extension Offices	19
2.10 Production of Extension Manual	20
2.11 Development of Evaluation Plan	21
2.12 Development of Audio-visual Materials	22
SECTION III: Recommendations	23
3.1 General Conclusions and Recommendations	23
3.1.1 Visual aids	23
3.1.2 Technical Package for Extension	23
3.1.3 Manuals	24
3.1.4 Contact Farmers	24
3.2 NRMP-Specific Conclusions & Recommendations	25
3.2.1 Credit Use	25
3.2.2 Planning and Evaluation	25
3.2.3 Training Contact Farmers	26
3.2.4 Continued Use of Extension Methodology	26
Annex	
Annex 1: Documents about the NRMP	27

SECTION I

The Introduction

- 1.1 The Setting
- 1.2 The Natural Resources Management Project
- 1.3 A Brief History of the NRMP

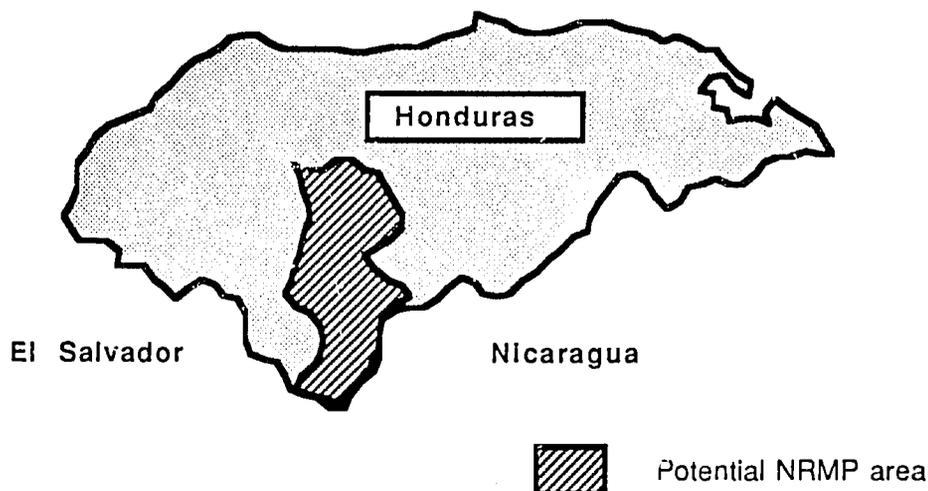
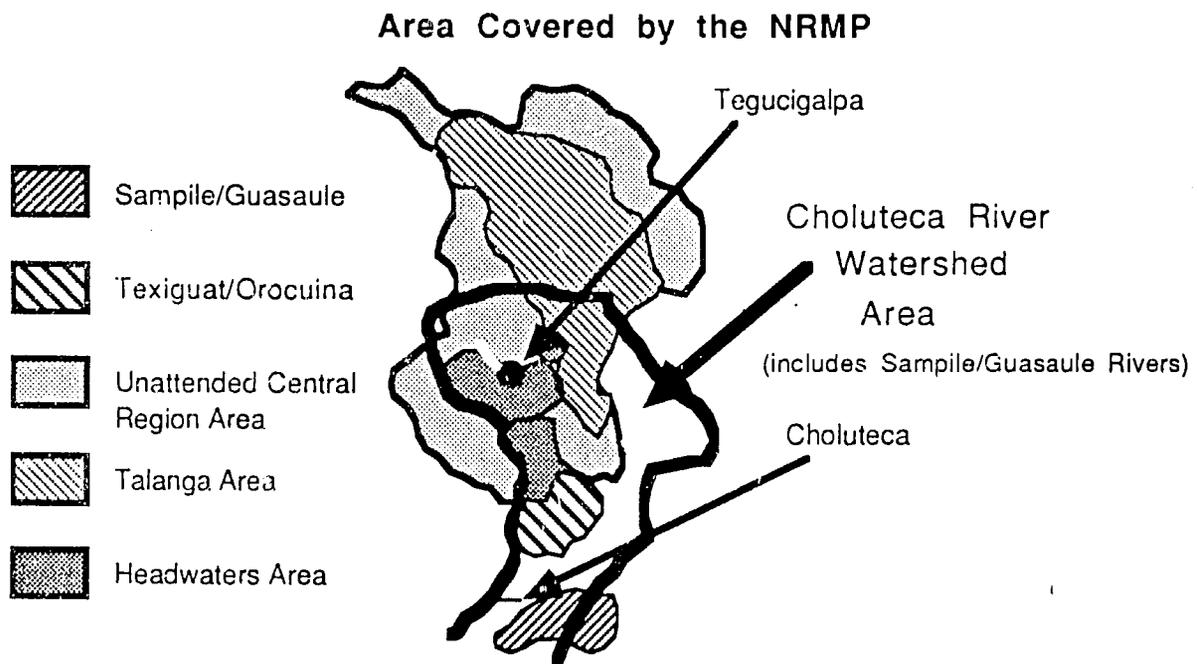
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1.1 The Natural Resources Management Project: The Setting

Southern Honduras is like the narrow end of a wedge; a thin strip of tropical Pacific Coastline in the Gulf of Fonseca hemmed in by Nicaragua and El Salvador. The Choluteca River flows into the gulf, after following a winding course through the hills from Tegucigalpa, the country's capital. The watershed area covers a total of approximately 9,000 square kilometers (3,150 square miles), the majority of which is comprised of arid sloping lands. Originally the hills were wooded - the ecological zone being described as dry tropical forest. Nowadays, there little forest remains: in recent times deforestation has been severe owing to the deprivations of lumber companies, the expansion of the beef market and the mushrooming population growth.



The area has a large population, owing to the presence of the capital city, whose population has been expanding dramatically since the 1950's. Today's capital inhabitants could number between 700,000 and one million. For Honduras, the rural areas are also relatively highly populated, the typical rural family being of the subsistence type, eking out a living from three hectares of arid, moderate-to-steep sloping land and earning some additional income from off-farm activities. The distribution of land is rather unequal, approximately three-quarters of the land being concentrated in one quarter of the farms. The larger the farm, the higher the proportion of the land that is used for pasture: thus larger farmers generally are more interested in cattle, whereas smaller farmers are more interested in grain crops (maize, sorghum and beans).

The rainfall distribution is typically bimodal, the 5-6 month rainy season being interrupted by one or two pronounced dry periods. Another characteristic feature is the unpredictability of the rainfall and the variability from one year to the next. The absence of irrigation and water harvesting makes agriculture a risky enterprise, and, as a result, the farmers make only minimal use of technologies that requires purchased inputs.

The area's limited agricultural potential, coupled with the inaccessibility of many of the communities, effectively excluded the local farmers from receiving government technical assistance services. In the 1970s a few private programs were established in different areas and progressively the road network was improved. The government also became increasingly aware of the social importance of the area (so near to Nicaragua and El Salvador!) and of the need to start conserving the natural resource base and protect the water-producing areas for Tegucigalpa.

1.2 The Natural Resources Management Project

The Natural Resources Management Project (NRMP) was created in 1981 with the following objectives:

- * Design and carry out a watershed management project to protect the Choluteca, Sampile and Guasaule River watersheds.
- * Strengthen the capacity of the Honduran Government, through the Ministry of Natural Resources, to manage its natural resources.

This objective encompasses two areas: 1). the compilation and analysis of data relating to the renewable natural resources; and 2). the development and implementation of policies, mechanisms and programs for natural resource management.

- * Improve the income of the small hill-side farmers through their utilization of appropriate agricultural and forestry production techniques

The project began following the plan established in the project paper, the principal GOH participating institutions being the National Cadaster Program (Catastro Nacional), the Treasury Ministry (el Ministerio de Hacienda y Crédito Público) and the Ministry of Natural Resources (SRN) through two programs, Water Resources (Recursos Hídricos) and Renewable Resources (Recursos Renovables). However, as the project progressed, considerable modifications developed in its operating structure. The Cadaster program produced some maps and figures, but they were usually too late to be of any practical use. Additionally, when the watershed management activities spread into new areas, Catastro was incapable of providing the type of support contemplated in the project design. Consequently, the NRMP effectively learned to do without Catastro for the planning of its watershed management interventions. Project funding for Catastro was terminated in 1985.

The rôle of Recursos Hídricos could be classified as another case study of unfulfilled expectations, at least from the point of view of support for the NRMP field activities. The agency maintains a network of weather stations in the project area. Unfortunately, their capacity to supervise data collection and interpret the results is extremely limited. For example, it fell to NRMP-SRN personnel to point out to them that their rainfall data for the Texiguat area was out by a factor of almost three! A similar situation occurred with their lack of appreciation of the orographic effect and including it into their calculations (most of the meteorological stations are located in valleys). And Recursos Hídricos has yet to come up with any practically-oriented analysis of rainfall information of the type that might influence the design of conservation structures or modify planting dates. Project funding was Recursos Hídricos was also terminated in 1985.

The policy component of the project has also be brushed away into the bottom drawer. In a way, this may simply be the recognition of reality (i.e. inter-institutional coordination is nearly impossible).

However, it's also true that only minimum efforts were made to collaborate with other projects and agencies and such instances that did occur were more often the result of local initiative than operating policy. Even for the very important Guanacaure and Guacerique watersheds, there still is no inter-institutional plan.

One aspect of the project that has followed the original design is the extension component. This can be seen more clearly in the following table, where the numbers reflect a progressive increase in beneficiaries, physical outputs and type of activities. It is worth pointing out that this is the component of the project that Chemonics was contracted to support.

Advances in the NRMP 1982-1987	YEAR					
	1982	1983	1984	1985	1986	TOTAL
Field Technicians (#)	8	29	52	100	150	150
Participants (families)	391	694	2,344	3,541	6,370	6,370
Soil Conservation (ha)	7	129	344	377	425	1,282
Production Assist (ha)		410	832	1,289	3,188	3,188
Improved Pasture (ha)			101	167	334	602
Agro-forestry (# trees)		42,400	68,896	606,884	543,027	1,261,207
Plantations (ha)	3	452	414	181	121	1,171
Forest Mgmt. (ha)				241	293	293
Forest Protection (ha)				19	30,927	30,927

For its part, Chemonics started technical assistance activities in the extension component of the NRMP in May 1983, one year after field activities had commenced. This had the advantage that there was little waste of contractor's time due to normal delay-causing factors (e.g. for the conditions precedent to be met, staff to be contracted, jeeps to be purchased and delivered, etc.). However, it did have a big disadvantage in that the project director and planning staff had had a year to confront problems and take decisions - for good or bad. Thus, when the

Chemonics team arrived, the national project personnel were very much in control and already committed to certain lines of action that they had already decided. It would fall to Chemonics to spend time, in certain cases, "showing them the error of their ways whilst avoiding offending sensibilities."

1.3 A Brief History of the NRMP: 1981 - 1987

- 1981 Project Start-Up: Roberto Ruiz proposes himself for Project Director.
Rent offices and hire key personnel.
Project personnel visit some Headwaters communities.
National Elections (in November).
- 1982 *Change in Government (February).*
Conditions precedent fulfilled.
2 week training session held for project personnel.
Carlos Rivas named as new Project Director (June).
USAID assigns John Warren as Project Officer (June).
Ultimatum given to NRMP - Get some results or you get removed from the map! Field personnel distributed in extension agencies in Headwaters. Soil conservation promoted by all-cash subsidies and production credit offered to groups.
- 1983 Soil conservation and forestry nursery work continues in Headwaters subwatershed.
Expansion into Sampire-Guasaule (South): 4 new agencies.
Project holds problem-solving confrontation-type workshop.
2 of the original national specialists leave (April).
Chemonics begins activities (May).
Drought in South.
Orientation trip to other projects.
Watershed management plan written.
- 1984 Expansion in Texiguat-Orocuina area in soil conservation.
First NRMP evaluation extends project.
2 more agencies in Headwaters area.
Continuation and completion of management plans.
USAID/CARE project steamrolls into Southern region.

1984 cont.

Commencement of field-level livestock and pasture management activities.

Training courses given to field personnel.

Monthly planning and yearly evaluation introduced.

Introduction of extension methodology, including demonstration plot use, film-strips, promotion visits and short courses for farmers.

Limitation of cattle technology according to producer type.

Project level Annual Evaluation and Planning meeting.

One Chemonics specialist departs (Spiro-Horticulture).

1985

Central Region created to encompass NRMP activities.

NRMP expands to 7 Talanga agencies.

NRMP personnel training plan produced and carried out.

NRMP bilateral agreement amended, eliminating Catastro and Hídricos.

Project-wide use of extension methodology.

Contact-farmers (productores-enlace) trained in South.

Film-strips and flip-charts made. Slide library expanded.

Increased attention paid to agronomic practices.

Focus of forestry component changes to agroforestry.

King grass heavily promoted in livestock/pasture component.

Livestock/Pasture manual printed. Drafts of extension and soil conservation manuals produced.

3 regional annual evaluation and programming events.

Chemonics technical assistance contract extended.

National elections (November).

1986

Change in Government (February).

National elections cause considerable administrative delays (especially for contracts, inputs and training).

External evaluation and AID audit.

Publication of soil conservation and extension manuals.

Follow-up for contact-farmer methodology.

Continued use of monthly planning formats.

Experienced NRMP personnel leave project on AID scholarships. Others are sacked for political reasons. Big influx of new personnel - many training events.

Wilfredo Córdova named Project Director.

Drought in South.

Video of NRMP produced.

Investigation element introduced into project.
Greater coordination with other projects (technical).
2 long-term Chemonics members leave (Watershed Management and Livestock), 2 remain for additional year (Soil Conservation and Livestock).
3 regional annual evaluation and programming events.

1987 Greater consolidation of methodology of all components.
Introduction of computerized data management system.
Expansion into Southern El Paraiso region.
Greater attention given to area characterization as a basis for planning activities.
Investigation component established.
Short term Chemonics advisors fielded in agroforestry, WID, and range management.

SECTION II

Activities and Achievements

- 2.1 Terms of Reference
- 2.2 Observations about the Terms of Reference
- 2.3 Improve Extension Service of NRMP
 - 2.3.1 Use of Demonstration Plots
 - 2.3.2 Working with Contact Farmers
 - 2.3.3 Use of Incentives
- 2.4 Development of Work Plans
- 2.5 Training of Personnel
- 2.6 Site Selection for Extension Offices
- 2.7 Production of Extension Manual
- 2.8 Development of Evaluation Plan
- 2.9 Development of Audio-visual Materials

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2.1 Terms of Reference: ADVISOR IN AGRICULTURAL EXTENSION AND COMMUNITY DEVELOPMENT

Term: Initially 12 months, extended 3 times to total 48 months.

Responsibilities:

The Agricultural Extensionist will furnish assistance to the Project regarding agricultural extension organization, methodology and practices. Will also assist in developing recommendations for strengthening delivery of agricultural extension and social promotion services to project beneficiaries. The extensionist will assist Project personnel in promotion, organization, and training of community groups and contribute to the development of an effective extension capacity within the Ministry of Natural Resources in agricultural activities related to natural resources management.

Tasks

- * Assist in establishing points to improve the extension service of the project and design mechanisms to coordinate same with other programs of the Ministry of Natural Resources.
- * Assist field staff in developing work plans for extension and community development at the sub-watershed level, and, where appropriate, individual work plans.
- * Assist project staff in the selection and training of additional personnel contemplated under project design in extension and community development.
- * Assist in the selection of sites and in the establishment of field extension offices in the project area.
- * Assist in the development of a basic manual of technical procedures and instructions for extension work, and collaborate with project personnel in development of modules for the training of extension agents, para-professionals and farmers.
- * Assist in the development and implementation of an evaluation plan designed to determine the effectiveness of the extension services rendered under the project and the efficacy of the agricultural interventions promoted.

2.2 Observations about the Terms of Reference:

Most of the contents of the terms of reference are both logical and feasible in the situation prevailing in the NRMP. Certain aspects, however, were impossible to follow, in part due to the reluctance of the project director to cede responsibilities which would have reduced his effective power, and, in part, due to the fact that, by June 1983, when the contractor began working, some decisions had already been taken. For example, the advisor had very little input in the proposed task of personnel selection.

In the case of the siting of extension offices, many of the decisions had already been taken by the time the advisor arrived at the project. Sometimes political considerations were given much greater importance than technical ones in the selection. Consequently, there were occasions when the consultant's technically-based recommendations were not implemented. However, it should be clarified that such cases were the exceptions, and it can be said that the advisor was generally given the liberty and the means to attain the tasks stated in the terms of reference.

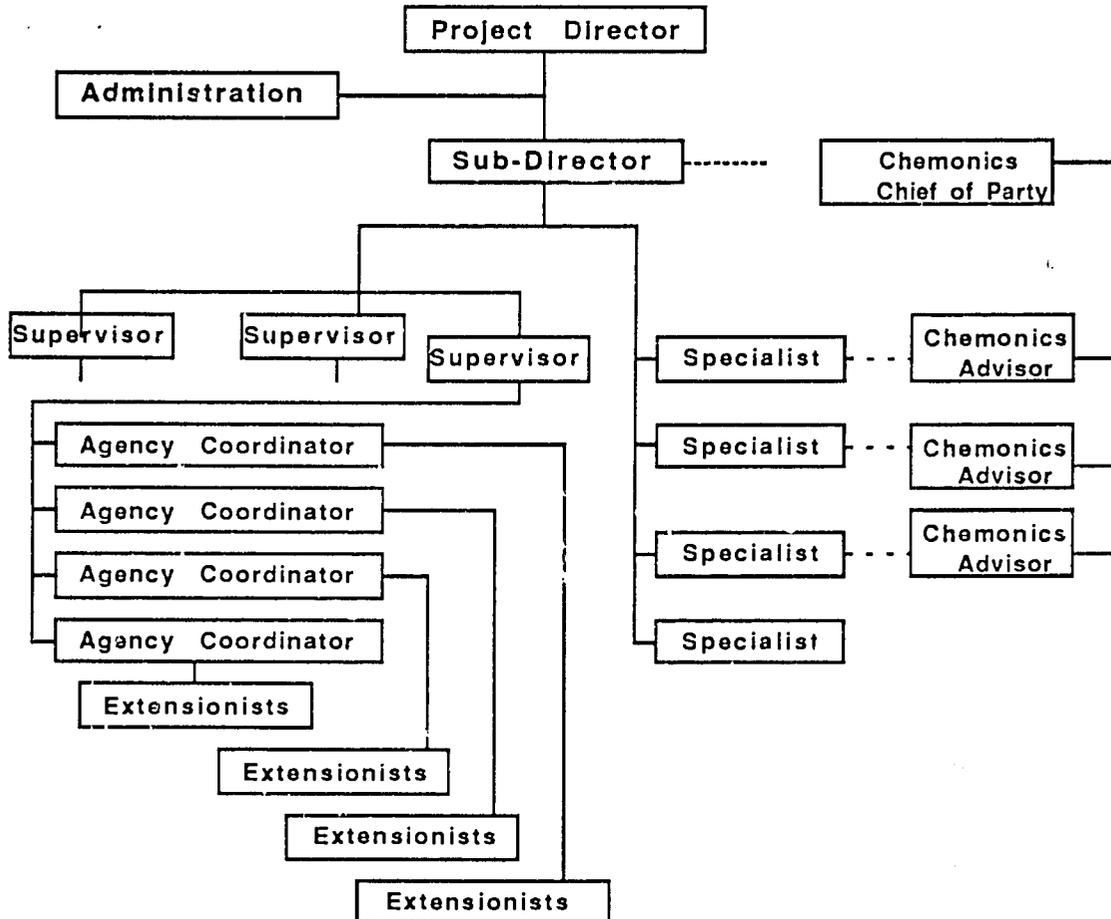
Another fact to take into account is that the original terms of reference stipulated a level of effort of only 12 man months. In practice this position was extended 3 times, to a total of 4 years. The net result of this was that the advisor had time to provide follow-up to the recommended actions, to develop more permanent training and promotion modules, and to make the necessary modifications on the basis of field experiences. Also, in certain cases the phrase *"assist project staff in .."* was effectively converted into *"do it yourself without assistance"*, since for approximately one third of the time he was working without a national counterpart.

Period	Counterpart
5/83 - 11/84	Mario Pineda
12/84 - 3/86	None
4/86 - 12/86	Bonifacio Sanchez
1/87 - 1/87	None
2/87 - 7/87	Rosalio Rosales

The word 'assist' is extensively used in the terms of reference, since the results would mainly be achieved by working through a Honduran national counterpart. The following organization chart shows how the advisor's recommendations would be incorporated into the project's methodology. It is also important to note that the advisor's Honduran counterpart himself had no direct authority over field personnel: anything to be carried out by the extensionists had to go through the sub-director (or Head-of-Field-Activities) and down from him to the sub-watershed supervisors. They, in turn, would issue the required instructions to the extension agency coordinators and the extensionists.

The actual number of specialist sections has varied considerably during the life of the Project - from an all-time high of 10 to a low of 5. The more permanent sections have been the following: Data Management, Extension, Agriculture-Soil Conservation, Livestock and Pasture Management, Forestry, and Women-in-Development. The responsibility for the specialists' coordination has oscillated between the director and the sub-director.

NRMP Organization Chart



2.3 Improve the extension service of the project and design mechanisms to coordinate same with other programs of the Ministry of Natural Resources.

To improve an extension service, the people responsible must be made aware of the problems and of the efficacy of alternatives. For an advisor to achieve this, his opinions must be taken into account by the national team members. At the same time, great care should be taken to avoid offending their sensibilities (by tactless pointing out of errors or highlighting the superiority of the consultant's methods). Consequently, the consultant's accomplishment of this task is very largely dependent on his degree of integration into the project's planning staff, gaining their respect and confidence, and involving them directly in the development of alternatives.

In this, all the Chemonics team were fortunate in that the project's director made a determined effort to avoid the isolation of the external advisers. In all cases the Chemonics members were physically situated in the offices of their national counterparts, shared responsibilities with them and participated in the same meetings. In this way no real "them and us" atmosphere developed.

Obviously, the task of changing the design of extension mechanisms was tackled more intensely during the first year of the consultancy when various aspects of the project's goals and methodologies were still being defined. Of special importance was the whole process of producing the Watershed Management Plan. This was the prime responsibility of the watershed management adviser, Paul Dulin. However, all the specialists had an active rôle in this task and there was much group discussion of common issues (e.g. use of credit and subsidies, limitation of technology, criteria for choosing priority work areas, etc.).

The interest to review goals and methodologies was by no means limited to the Chemonics team members. In fact, much of the initiative to do this came from the counterparts. In 1982 the project objectives had been redefined and a year later the sub-director had taken the uncommon step of inviting all the specialists to write down their feelings and impressions about the NRMP operation. With time, a common project perspective was established, and which all the specialists adhered to (at least in theory).

The specialist meetings and inter-sectional field visits also provided opportunities for discussion about ideas and experiences.

These were more productive in 1983-1984 and 1986-1987. In 1985 there was a change in sub-director and the specialist body began to suffer from a palpable lack of leadership and technical direction. This situation was remedied with the arrival of a new sub-director (Jorge Guevara) in March 1986 and his replacement (Luis Alvarez) in October, 1986.

With time, the annual evaluation and planning process has become the principal mechanism for analyzing results and discussing new alternatives. In this, there has been an increasing participation of the field personnel. The process includes a qualitative and quantitative public evaluation of each component and the discussion of proposed strategies for the following year. The advisor was active in the design and implementation of this system, which has been continually utilized in the NRMP since 1984. A second analysis and experience interchange mechanism, also proposed by the advisor, has been the carrying out of monthly regional evaluation meetings. In these, one agency is selected per month to present publicly and discuss the results of its monthly programming. This system helps highlight and solve immediate problems and also creates a healthy spirit of competition between the different extension agencies.

Specific achievements in this particular field included the following:

2.3.1 Use of Demonstration Plots

In 1982, when the project started, negligible importance was attached to demonstration plots. On the contrary, it was supposed that the farmers would confidently follow the advice of the extensionists, implementing any recommendations that they might be given. Another reason for this that a high proportion of the original NRMP extensionists had been selected by the Head of Field Activities on the basis of their performance in the National Development Bank, he himself having worked there for a number of years. Their general experience was with a different type of farmer than that which prevails in the project area.

Shortly after the advisor's arrival at the project, he began to draw attention to the fact that without demonstration units the extension process would be seriously hampered. The opening of a new sub-region (Orocuina-Textiguat) in early 1984 provided the opportunity to show the effectiveness of an integrated and sequential approach to extension methodology, hinging around the

use of demonstration plots for both promotion and training. The positive evaluation of this experience in the project level planning meeting at the end of the year resulted in this methodology being accepted for general use in all the NRMP agencies.

Theory is one thing, practice is quite another. In the dry Texiguat-Orocuina area the project extensionists were offering a limited and proven range of technical alternatives: mechanical soil conservation structures, contour sowing and minimum tillage. In the Headwaters area a different situation prevailed. There the farmers were using a much higher level of technology to produce vegetables for sale in the nearby Tegucigalpa market. The technicians, on the other hand, knew little about vegetables. And neither was any real help forthcoming from the Tegucigalpa-based horticulture specialists. Consequently, the use of the Headwater demonstration plots was relegated to showing the effects of spacing in maize (a practice that had not been investigated locally). The unfortunate result of this was that some demonstration plots failed to show any significant yield increase over local practices (and, in two cases, the 'improved' practices were embarrassingly inferior), but also the Headwaters farmers had relatively little interest in the maize crop itself (being principally concerned about higher-value vegetable crops).

It took until 1986 for the NRMP to offer anything in terms of improved horticultural practices. A similar situation had existed in the forestry component: the chosen technologies had initially been very distant from the farmers' needs or interests. In 1981, in a brief study of farmers' attitudes towards the proposed practices, many of them had expressed the total lack of need for planting pine trees: "Pines grow up by themselves, there's no need to plant them!" The NRMP foresters took little note of the farmers' logic and even attempted to plant pines in ecologically unsuitable areas. They were still recommending dense plantations in 1984 and it took until May 1985 before any impulse was made to change the project focus towards agroforestry and forest management. As a result, it took the NRMP until 1986 to present forestry practices that were generally acceptable to the farmers and owners of land.

In synthesis, the unavailability of appropriate and proven technology seriously delayed the use of demonstration plots.

2.3.2 Working with Contact Farmers

Early in 1985 the technical staff of the Southern region informed the NRMP extension and soil conservation specialists of their intention to train contact farmers. They wanted to know if the project could help them with technical instructors and materials, given that they only had sufficient funding for board and lodging. Both the extension advisor and the soil conservation adviser, Frederick Tracy, attended a general ideas-airing meeting in February. This turned out to be the first step in a partnership that was to last until the advisor's departure from the project and that produced some excellent results for both the Southern region and the NRMP.

Both Tracy and Hughes-Hallett had previous experience of work in programs with contact farmers and they were well aware of their importance in the extension process. Moreover, in a situation of high personnel turnover, such as prevailed in the SRN, the contact farmers could provide greater continuity in farmer promotion and training activities. Consequently, the Southern initiative was perceived as an opportunity to demonstrate the effectiveness of a methodology that could be subsequently incorporated in the extension design in the whole project area.

The above objective was achieved, and the 1987 annual plans include the selection and training of contact farmers in Talanga and Headwaters. This objective was also in the 1986 plan; but, unfortunately, the existing administrative situation made it impossible to execute. Additionally, it was pleasing to observe that the training and follow-up system developed in the South was deemed to be the most coherent and effective scheme amongst all those that were functioning within SRN projects in the country. The 1986 evaluation, too, was quick to notice the validity of this type of work and their first recommendation was that it should be expanded and intensified.

Certain materials were developed to improve and reinforce the extensionists' capacity to train and work with the contact farmers. These documents included "La Formación de Productores-enlace" and "La Metodología de Seguimiento de Productores-enlace." Other written materials were prepared for use by the contact farmers themselves, although it was recognized that this activity is very important and that ideally it should receive national level support.

2.3.3. Use of Incentives: Credit and Subsidies

UNFORTUNATELY, the use of credit and subsidies has become a cornerstone of the NRMP methodology. This situation started in 1982 when subsidies were used as a means of obtaining field results that could justify the continuance of the project. Since then, it has been very difficult to reduce them, and they remain one of the principal bones of contention between some education-minded specialists and the immediate goal-seeking field personnel. Arguments abound on both sides:

The pro-subsidists use some of the following:

- The people are very poor: they could never afford our technologies.
- All other sectors of society get subsidies.
- Subsidies reduce the risk of adopting unknown practices.
- Subsidies help to obtain greater physical results within a shorter period.
- Subsidies justify the imposition of basic quality criteria.
- The subsidized activities do not only benefit the farmer: they also benefit the whole community and future generations.

The anti-subsidists make the following claims:

- Subsidies are a form of paternalism.
- Subsidies obviate the need to convince people about the real benefits of the subsidized practices; i.e. the subsidy becomes an end in itself.
- Subsidies are a nightmare to administer and frequently encourage people to lie in order to obtain them.
- The subsidy projects are not permanent: i.e. they create an artificial situation.

Another consideration added further confusion to the subsidy debate. It transpired that in the South no less than four different projects were operating with different levels and types of subsidies and the local people were fast learning to exploit the situation. Out of a typical family, the father might participate in a work-generating rural roads project, the elder son in the NRMP cash-subsidized conservation activities, the wife in a Caritas-supported food-for-the-family women's group, the younger son in a German food-for-work reforestation effort and the baby in a CARE-organized milk distribution scheme. This obviously stimulated inter-institutional competition and certain NRMP field personnel began to complain *'that the people wouldn't work with the project any more, because they could get bigger subsidies elsewhere'*.

In view of all this, the advisor has progressively attempted to influence the NRMP to coordinate with other subsidy-providing institutions, to limit the total subsidy value and to orient the subsidy content towards production-increasing measures (fertilizers, tools, etc.). To achieve this the advisor has annually helped present proposals to review and modify the NRMP subsidy policy and in 1987 the desired position has now been partly attained: no reforestation subsidies are given (except in the case of stream protection in public lands), half the value of soil conservation structure subsidies is in the form of inputs and tools and efforts are made to coordinate with other institutions.

The credit policy of the project has also been modified since 1982. At that time farmers could only obtain credit through a local farmers committee. In this case, although the credit was used by individual farmers for their separate activities, all the members were collectively responsible for paying back the loan. The obvious consequence was that, when one or two people defaulted on their payments, the whole group was penalized, the punishment taking the form of ineligibility for further loans. The effect was the desintegration of some groups and the stagnation in membership of others. The advisor drew attention to this fact in 1984 and 1985, and the loan policy was modified in time to permit the expansion of the livestock and pasture improvement activity in 1985 - 1986.

At the same time it should be explained that the NRMP was very uninterested in changing its credit methodology, despite the large amount of loan funds available. In part, this reluctance stemmed from the position adopted by the Head-of-Field-Activities, who had worked for many years in the National Development Bank. He considered himself an expert on credit and was relatively unwilling to listen to other people's advice on the topic. The project director, on the other hand, had never worked with credit and consequently avoided getting involved in it. When the Head-of-Field-Activities left the project in 1985, a vacuum was created that nobody wanted to fill and, as a result, the credit component gets nowhere near the attention it deserves.

2.4

Development of Work-Plans

This task also figured in the terms of reference of the Watershed Management Specialist, a fact that was to cause occasional confusion and exchanges such as :

"What do you mean you helped them plan?!!! Don't you know who the planner is?!!!"

"Well, in that case why don't you get off your _____ and do it?!!!"

The fact of the matter was that in 1983, when the Chemonics team began their technical assistance activities, the extension agencies were very deficient in their planning capabilities and it required a combined effort to remedy the situation. There were no monthly or annual goals at agency level, and planning was effectively limited to a daily or weekly agenda of farmer visits and group meetings. Progressively the NRMP has turned towards an itemised bar-graph system with quantifiable indicators. This is both good for supervisory control and for stimulating not-very-committed personnel to increase their outputs. Additionally, this system makes planning a very easy, almost mechanical process, which is very useful for working with large numbers of personnel.

The disadvantage lies in the system's relative inflexibility and the reduced importance it gives to less easily measured human and quality-determining factors. Consequently a bad demonstration plot and a good one appear the same on an evaluation sheet and farmers' attitude changes do not appear at all. Another disadvantage of the system is that it can induce the extensionists to lie with numbers.

The principal way to overcome these defects is to have committed and capable supervisors and specialists who can continually call their subordinates' attention to the project goals and evaluate all their activities from this viewpoint. To help achieve this purpose, the advisor coordinated a work-shop about supervision and has helped put together a supervisory manual. Additionally, part of the training given to field personnel consisted of extension strategy, which included the sequential combination of extension methods to obtain the desired objectives. A document, describing the extension strategy, written in combination with personnel from the Southern region, was presented and discussed in a national-level meeting of the SRN regional extension coordinators. It was agreed that all regions should attempt to follow the described process.

2.5 Training of Additional Personnel

The training of additional and existing staff was one of the principal activities carried out by the advisor. In practice, it fell to the extension section to take over the programming and methodological direction of all the training events carried out by the NRMP. This rôle was officialized in 1986 when it was decreed that no course could be given without the approval of the Extension section; prior to this, it had merely been suggested that the section should provide the required cooperation.

The system now used is as follows:

1. Field personnel express their needs for further training in the annual evaluation formats.
2. The extension section consults with the supervisors and different specialist sections about the need for training or field personnel and the timing and methodology of possible training events.
3. The extension section writes up and circulates a project-wide proposal for training events.
4. A combined meeting is held between the NRMP direction, the specialist sections and the supervisors to discuss and modify the proposed plan.
5. The extension section assists other specialist sections in programming, evaluating and sometimes conducting the training events.

The above sequence is mainly used for programming events to be conducted in training centers and which require additional project expenditure on travel, board and lodging. The adviser has also promoted the use of structured on-site orientation visits for training field personnel, which may last up to 3 days and involve all the personnel of an extension agency.

The following figures give an idea of the relative importance of training personnel in the advisor's work:

Effort Spent by Extension Advisor on Training Activities

	Training Days	NRMP personnel	Farmers	% of Time
1983	26	38	37	17.7
1984	54.5	177	532	24.0
1985	44	516	157	17.5
1986	45.5	267	166	14.3
1987	22	109	30	21.8

To these figures must be added the time spent in preparing for the training events, in planning and organizational meetings and writing up materials. One of the results of the consultant's work has been the increased importance given by the project to the training of field personnel. This can be seen by comparing the NRMP program with those of other SRN projects, where the extensionists' training requirements are largely ignored. It is hoped that the increased use of the supervisory formats in 1987 will improve the supervisors' and specialists' capability to identify training needs.

2.6 Selection of Sites and Establishment of Field Extension Offices

This task was only partially tackled by the advisor - not for lack of willingness on his behalf, but because many decisions had already been taken by the time he arrived. When the Texiguat-Orocuina area was opened up in 1984, the advisor and his counterpart did a rapid investigation of the area, and their recommendations were used as the basis for locating extension agencies. A different situation prevailed when the NRMP took over the Talanga area a year later. In this case the agency sites had already been chosen by the previous project (EEC-SRN-Danli). In 1986 the advisor and his counterpart were asked to do a quick survey of the extension needs of the Southern El Paraiso area. In this case the consultant's technically-based recommendations were rejected, probably for party political motives. The advisor is still waiting to see the acceptance

and degree of implementation of his recommendations in a similar study in the South-West Francisco Morazán area (encompassing 8 municipalities).

The methodology used by the advisor has been to carry out a quick and intensive local survey, concentrating on the following aspects: access, crops and farmer practices, sources of income, service institutions, land tenure and climatical factors. This provides the basic information necessary to make a decision about the establishment of an extension agency. In the case of an affirmative decision, a second follow-up investigation is conducted in greater depth to determine the content and emphasis of the planned extension activities.

2.7 Production of Extension Manual

In retrospect, this can be seen to be one of the more positive products of the advisor's work. The Practical Extension Manual has been printed twice and has had wide-scale distribution within and outside the project. The second edition is over 200 pages long and has 70 diagrams and illustrations. It includes sections on extension strategy and methodology, investigation of areas, selection of technology, work with groups, supervision of extension activities and production and use of visual aids.

At first the writing of manuals was widely questioned by the nationals in the specialist body. Some said that it would be a waste of time, whilst others criticised it as being a scheme for Chemonics and its consultants to obtain some self-serving products - at the expense of the project. In fact there are two over-riding justifications for expending so much effort in this task: (1) the absence of alternative reference and training material, and (2) the large expansion and turn-over of personnel.

For an extensionist to work effectively, he/she must be adequately trained in the institution's philosophy, strategy and methodology. In the case of the NRMP, over two hundred field technicians have worked in the project, and, consequently, this has required a considerable training effort. The extension manual is a fairly complete document, around which a theoretical/practical course can be designed. Obviously extensionists do not pick up the manual for pleasure reading, but when extracts of the manual are stipulated as required reading in a training course, the result is a greater familiarity with and recognition of the usefulness of the document.

2.8 The Development of an Evaluation Plan

Two different lines of action have been taken by the advisor to accomplish the above task. In the first case, the extension section has been very active in promoting, supporting and supervising the carrying out of agency-level diagnostic investigations. Various extension agencies began this activity in 1985 and for 1987 all 23 of them have included in their annual plans the completion or updating of their characterization documents. The underlying intention is to detect the local human and physical potential, to maintain a source of base-line data and to provide a framework for planning extension and agricultural research interventions. The continued use of this system can provide excellent information for evaluation purposes. At present one member of the extension section has been given the permanent responsibility for this task, which will contribute both towards quality and uniformity between agencies. It is interesting to note that, whereas in 1985 this task was carried out exclusively by the extension section, by 1987 all the specialist sections were actively participating, providing a common ground for planning and evaluation the NRMP actions.

The second line of action recommended by the advisor for project evaluation has been the utilization of a technical supervision methodology. In this, all the Chemonics advisors have actively collaborated, and, in fact, Soil Conservation was the first component to assemble its supervisory package (including evaluation formats and instruction guidelines). To standardize the supervision methodology, the advisor conducted a workshop for supervisory and specialist personnel. This served as a forum to discuss and evaluate experiences and also to program follow-up activities. A few months after this event, the advisor combined all the different sections' formats into a single supervision instruction manual.

The recommended methodology makes use of the extension agencies farmer/producer files (developed by Paul Dulin) and a random sampling technique to select sites and activities to be evaluated. It is hoped that this activity will be greatly intensified in June 1987.

2.9

Develop Audiovisual Materials

The development of audiovisual materials was a continual responsibility during the 4 years. On 3 occasions Chemonics brought down their home office specialist, Omar Serritella, to provide added momentum and expertise to the production process.

The advisor's first task in this area was to review the equipment list that had been compiled by NRMP staff prior to his arrival. This had basically been a "one-of-everything" request sheet, with no regard for spare parts or maintenance equipment. The advisor changed the list to focus mainly on the purchase of field-proven slide and film-strip projectors, plus tape-recorders and auxiliary equipment (cameras, slide duplicator, etc.). After about a year of waiting, it was apparent that the procurement capabilities of USAID were not satisfactory and that it would take another estimated two years for the equipment to reach the project. Fortunately, USAID's administrative mechanisms were sufficiently flexible to allow Chemonics to make the purchases and the required material very soon was in use in the field.

Since then, the bank of slides has been expanded to the present total of approximately 5,000. There is also a selection of film strips, a few of which have been made for the project under the advisor's direction ('Soil Conservation', 'King Grass' and 'Tree Nurseries'). Perhaps one of the more encouraging results of the NRMP development has been the use that is continually made of the slide library for training and promotion purposes. All the specialists are now in the habit of systematically reviewing and selecting the appropriate slides before beginning any training session for field technicians.

The advisor and Omar Serritella worked on the production of four flip charts, three of which are being utilized in the field: the fourth (agroforestry) is still in the basic design stage. These flip charts are of good quality in terms of content and presentation and have been much sought after by personnel of other projects.

SECTION III

Recommendations

- 3.1 General Conclusions and Recommendations
 - 3.1.1 Visual aids
 - 3.1.2 Technical Package for Extension
 - 3.1.3 Manuals
 - 3.1.4 Contact Farmers
- 3.2 NRMP-Specific Conclusions & Recommendations
 - 3.2.1 Credit Use
 - 3.2.2 Planning and Evaluation
 - 3.2.3 Training Contact Farmers
 - 3.2.4 Continued Use of Extension Methodology

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3.1 General Conclusions and Recommendations:

The following conclusions and recommendations are directed towards project planners, evaluators and administrators. They are based on the adviser's experiences in the NRMP, but he considers that they have an application beyond that particular project.

3.1.1 Visual Aids

Visual aids can be profitably utilized in the promotion stages of a project: to make people aware of the problems and to make them understand the basic principles and effectiveness of alternative solutions. The availability of visual aids is also a stimulus to relatively untrained extensionists - for them to give training courses and use group methodology. At the same time it is essential to stress the importance of field activities (demonstrations and demonstration plots) for farmer follow-up promotion and training. The extensionists should also be taught how to prepare their own visual aids.

Recommendation:

A visual-aid specialist should be employed early in project execution and flexible mechanisms should exist for procurement of audio-visual equipment.

3.1.2 Technical Package for Extension

For extension to be effective, the improved practices must be available and proven under local or similar conditions before the technological transfer activities are initiated. The pace and sequence of the transfer process will depend on a combination of factors, such as the existing technological level of the farmers, the cost and complexity of the recommended practices, the development of markets, etc. In an interdisciplinary-type project the situation becomes more difficult to manage, since it requires the different subject-matter specialists to establish a common strategy between them.

Recommendation:

The identification of the technical alternatives should be done between extensionists and subject matter specialists following a common set of criteria. This activity should be coordinated by a well-informed and respected technical generalist.

3.1.3 Manuals

Manuals are of great importance as reference material and instruction guides in projects that have a considerable turn-over of relatively inexperienced personnel. Good manuals are simple to use and well illustrated, and considerable time is necessary for their preparation, publication and subsequent modification. Experience indicates that they are not read or referred to, unless their systematic study has previously been incorporated into a training plan (i.e people will not appreciate their worth unless they are previously obliged to read and use them).

Recommendation:

In the absence of appropriate reference material, the preparation of manuals should be included in technical assistance proposals. At the same time, any newly written material should be incorporated into a training program as required reading. Projects that undertake this activity should have a well-developed word-processing capability to facilitate later modifications.

3.1.4 Contact Farmers

The effectiveness of incorporating contact farmers into the extension process has been demonstrated in many projects. At the same time there is an almost complete lack of appropriate agricultural instruction and reference material for use by this type of voluntary personnel. In view of this, many projects which work with contact farmers, have been obliged to write their own materials. The

resulting materials are invariably deficient, owing to lack of human and material resources, experience and time.

Recommendation:

An independent project should be created for the production of farmer-level instruction and reference material. This project would then supply farmers directly and would also respond to specific requirements of the different extension projects.

3.2 NRMP Specific Conclusions and Recommendations

The following recommendations are specific for the NRMP, and are based on the advisor's assessment of the situation that existed when he left the project on May 31, 1987.

3.2.1 Credit

The credit component is large and could be increasingly important in the promotion and implementation of NRMP recommended technologies. As subsistence farmers gradually transcend the barriers of commercial production, both credit and marketing play an increasing rôle in the transfer process. At present this activity within the NRMP is suffering from neglect.

Recommendation:

There should be a special credit component, with loan officials for evaluation and supervisory activities.

3.2.2 Planning and Evaluation

The planning and evaluation system developed for the NRMP is adequate, considering the large numbers of extensionists and the need to organize and control their actions. Efforts should be made to counter its inherent deficiencies of lack of quality considerations and lying with numbers.

Recommendation:

Field personnel should be supported and oriented by committed and capable supervisors. They should preferably be selected from the ranks of field personnel on the basis of demonstrated work performance and technical and human relations criteria.

3.2.3 Training of Contact Farmers

The training and follow-up work with contact farmers has been shown to give excellent results in the Southern region, where they now have a well-developed capability to organize and implement this complex activity. The NRMP has accepted this approach as part of project methodology and there are goals to select and train contact farmers in Talanga and Headwaters in late 1987. Unfortunately, no-one in these two areas has the experience or the time necessary to direct this activity.

Recommendation:

One person should be named to work in the extension section, whose prime responsibility would be to coordinate the training of contact farmers.

3.2.4 Continued Implementation of the Extension Methodology

The NRMP has made considerable headway in the use of certain methods and techniques, which, over time, have demonstrated their effectiveness. These include the annual and monthly planning-evaluation procedures, the programming of training for field extensionists, the area characterization methodology, the use of demonstration units and the production and utilization of visual aids.

Recommendation:

The NRMP should continue to use and strengthen the above techniques and methodologies, dedicating the necessary time and resources for this purpose. The section should always have 2 - 3 core personnel to carry out the required activities.

Annex 1: Documents about the NRMP

1. Report on Activities of Chemonics Technical Assistance Team on the Natural Resources Management Project, May - December, 1983.
2. Annual Report on Activities of Chemonics Technical Assistance Team on the Natural Resources Management Project, January - December, 1984.
3. Annual Report on Activities of Chemonics Technical Assistance Team on the Natural Resources Management Project, January - December, 1985.
4. Annual Report on Activities of Chemonics Technical Assistance Team on the Natural Resources Management Project, January - December, 1986.
5. Final Report of Technical Assistance Consultancy of Paul Dulin, Watershed Management Specialist/Chief of Party, Chemonics International Consulting Division, June 1983 - Dec. 1986.
6. Final Report of Technical Assistance Consultancy of Frederick Tracy, Soil Conservation and Land Use Specialist, Chemonics International Consulting Division, November 1983 - May 1987.
7. Proyecto Manejo de Recursos Naturales, 1982 - 1985, Tegucigalpa, D.C., 1986.
8. Second Evaluation of the Natural Resources Management Project, by Tropical Research and Development, Inc. (Joshua Dickinson et al.), 1986.
9. Manual Práctico de Extensión, by Peter Hughes-Hallett, Proyecto Manejo de Recursos Naturales, 1986.
10. Manual Práctico de Conservación de Suelos, by Frederick Tracy and R. Pérez, Proyecto Manejo de Recursos Naturales, 1986.
11. Manual Práctico de Manejo de Pastos y Ganado, by Rafael Ledesma and H. Gaekel, Proyecto Manejo de Recursos Naturales, 1985.
12. Manual Práctico de Piscicultura, by Manuel Paz, Proyecto Manejo de Recursos Naturales, 1986.
13. Primera Evaluación Interna del Proyecto, Proyecto Manejo de Recursos Naturales, Siguatepeque, Nov. 1984.
14. Manual de Procedimientos, by Paul Dulin, Proyecto Manejo de Recursos Naturales, Dec. 1986.
15. Memoria de la Evaluación Interna Anual 1986 - Plan 1987, Proyecto Manejo de Recursos Naturales, January 1987.
16. Metodología de Seguimiento de Productores Enlace, by Cecilio Ferrufino, A. Oviedo, and P. Hughes-Hallett, Región Sur, SRN, 1986.

17. Formación de Productores Enlace, by Cecilio Ferrufino, A.Oviedo, and P.Hughes-Hallett, Región Sur, SRN, 1985.
18. Plan de Manejo de las Cuencas de los Ríos Choluteca y Sampile/Guasaule, Proyecto Manejo de Recursos Naturales, 1984.