

Final Report
Technical Assistance
Natural Resource Management Project
Santo Domingo, Dominican Republic

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June 8, 1986

Mr. William McCluskey, ARD
USAID/DP
c/o U.S. Embassy
A.P.O. Miami, 30001

RE: NARMA Project
PDC-1406-1-02-0000-00/WO #2

Dear Mr. McCluskey:

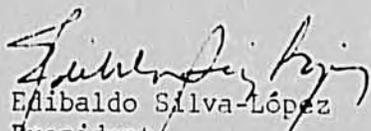
Enclosed please find five (5) English and seven (7) Spanish copies of our Final Report on the NARMA Watershed Conservation Management and Planning Project. The report submitted herewith covers services performed under Work Order No. 2 of April 11, 1986.

This Final Report includes, among other things, the four specific points mentioned in Article IV of said contract, focusing on the operational and structural changes necessary to implement the recommendations of the recently completed mid-project evaluation. In addition, it takes into consideration the issues raised during the discussion of the draft report in the predeparture debriefing held with the two Clapp and Mayne, Inc. specialists.

We believe that as a result of this work the GODR-NARMA Project officials became aware and accepted the new strategy and necessary steps to be taken to implement the evaluators' recommendations.

It has been a pleasure to collaborate with USAID and the GODR in this important project.

Cordially,


Eribaldo Silva-López
President

Enclosures

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ACKNOWLEDGEMENTS

Clapp and Mayne's Inc. advisors, who visited the Dominican Republic from April 13 through May 10, 1986, wish to acknowledge their appreciation for the attention and courtesies dispensed to them during their sojourn in the country.

The work carried out had the unconditional support of appropriate officials of the Government of the Dominican Republic (GODR) and the Agency for International Development (AID-DR), as well as of distinguished representatives of the Dominican Republic private sector.

It should be pointed out the collaboration, support and intelligent participation of the following persons: Eng. Delbert McCluskey, USAID Project Officer; Dr. Gary Kempf, AID Resident Advisor for MARENA; Drs. Fernando Gomez and Donald Bronstein, from Michigan State University under GODR/AID contract, Natural Resources Management Environmental Legislation Advisors, Eng. Italo Russo, Clapp and Mayne's Advisors Counterpart; Dr. Eng. Juan A. Gonzalez, MARENA Director and Undersecretary for Natural Resources; Eng. Maximo Aquino, MARENA Coordinator; Mrs. Zamira Hache; MARENA's Head of Administration, Evaluation and Budgetary Control; Eng. Hipolito Bazil, Mr. Aridio Roque and Dr. Beatriz Ledesma de Rios, SURENA's Technical Coordination Office; Engs. Fernando Campos, Rene Ledesma, Jose Idelfonso Cepeda, and Orlando Amargoz, SURENA's Department Heads; Dr. Cesar E. Lopez, of FLORESTA, private sector company, among others.

EXECUTIVE SUMMARY

The present summary depicts the main accomplishments attained in the implementation of the recommendations contained in the latest evaluation of the Dominican Republic's Natural Resources Management Project (MARENA). As per the provisions of Article II of the contract formalized by Clapp and Mayne, Inc. and the Agency for International Development, the technical assistance offered by the firm was circumscribed to assist the Undersecretariat for Natural Resources (SURENA) officials in beginning the implementation of the aforementioned recommendations.

Through the technical assistance offered, the SURENA officials gained an understanding of the recommendations to be implemented, their goals and consequences, obtaining, in addition, their acceptance. Also, SURENA took the initial steps in their implementation. An analysis of the legal and institutional aspects of the recommendations was carried out, and, in close coordination with subject officials, the SURENA organizational structure was redesigned, with the approval of the Undersecretary for Natural Resources. In addition, the firm assisted in defining the new Project strategy and in determining the information required to develop the plans for new watersheds. A chronogram for the implementation of the recommendations was prepared and we participated in the development of a timetable for organizing the work in new watersheds. Assistance was also offered in the realignment of the MARENA Project activities and in the

identification of interinstitutional agreements or contracts necessary for the development of said activities. A listing of the 16 Project activities was prepared indicating the responsible institution as to authority and execution, the required institutional coordination, and the mechanisms to be used in their development. In addition, the forthcoming Project actions were defined, including the need for future trainings as well as for technical assistance.

MARENA personnel was assisted in the reprogramming of the Project's activities. This was done taking as a starting point the new strategy, but following the original Project composition. Nevertheless, as a result of several discussions, it was observed that a redefinition of subject activities will be required and, consequently, a new reprogramming, which is out of the scope of this report.

The accomplishments attained in the implementation of the recommendations are summarized as follows: (i) broadening of the strategy; (ii) structural changes; (iii) operational changes; (iv) a new panorama of needs; and (v) adjustments in the conduct of the existing plan.

The BROADENING OF THE STRATEGY involves the evolution of that concerned simply with erosion control into a more transcendent and all encompassing one that would assure the adequate protection and management of all natural resources. The site for this strategy is constituted by each one of the Republic's watersheds, and its scope should extend as far as the point where the jurisdiction of the

integrated rural development starts, inasmuch as the latter involves different institutions and municipalities. The continued development of the actions under the new strategy adopted require an upgrading of efficiency in the tasks of obtaining, selecting and applying information and technologies, as well as the introduction of institutional improvements as refers to the organizational structure and operations.

Under the new strategy, the country's watersheds operations are diversified to include aspects related to wildlife and mangroves, which were not included in the former strategy. It is indispensable, as well, to resort to the cost/benefit analyses to demonstrate the feasibility of the operations from a dual point of view, to wit, technical feasibility and economic justification. The new strategy will also extend to the clientele composed by commercially oriented farmers, who cultivate plots with higher capitalization levels such as those under irrigation, and who are more familiar with the changing economy, credit mechanisms and banking operations.

The redefinition of the parameters, the scope of work and outreach of the MARENA Project, are conducive to STRUCTURAL AND OPERATIONAL CHANGES, to which there are no legal or institutional hindrances, as per analysis carried out as part of the technical assistance services . Consequently, it is expected that the new organizational structure developed for SURENA will be approved as soon as possible, and that, before the end of the year, the realignment of the MARENA Project activities will be effected (See Annexes II and VI).

In connection with the structure, SURENA organization was redesigned to include, in addition to the Administrative Unit, two offices: Office of Resources Management (OMR) (the existing MARENA OCPM Project Coordinating Office) and the Programming, Budget and Evaluation Office (OPPE) (presently known as OTC - Technical Coordination Office), in addition to the existing five Departments; Soil and Water, Natural Resources Inventory, Environmental Education, Wildlife and Fishery Resources. (See Annex XVI).

OMR will coordinate everything related to natural resources instead of being limited to the MARENA Project and, as a control measure, will not interfere in project/planning. It will be in charge of the Watersheds Management Offices (OMC). These offices will have full time personnel from the departments. These personnel will report directly to the OMC Head instead of reporting to the department heads. This will provide clear cut supervisory lines.

The OPPE will be responsible for the planning, at program level, of all the SURENA projects, including MARENA, thus institutionalizing its functions. To prevent confusion at sectoral and national levels, it was not named Planning office, as per agreement of the SURENA officials, but the OPPE will carry out the three basic phases of planning.

It is also recommended that the Legal Counsel, instead of being subordinated to the Technical Coordination office, report directly, for the time being, to the Under Secretary for Natural Resources, inasmuch as the advisory functions should be under the chief executive of an

organization. Thus, eventually, the Legal Counsel should report to the Legal Counsel office of the Secretariat of State for Agriculture, to propitiate the coordination of efforts towards the attainment of established goals.

As regards to the MARENA Project activities, it is recommended that, of the 16 original activities, the following 13 are transferred for execution to the private sector or to other government institutions, by means of agreements, contracts or other mechanisms: Cartography, Erosion and Water Quality Monitoring, Agricultural Zoning Small Farmers Associations Studies, Development of plans, Soil Survey and Interpretation, Farm Conservation, Watersheds Protection, Marketing Studies, Forest Management Planning Development, Road Construction Planning Development, Incentives Packages or Farm Credit, and Hillside Farming System Research. Once the OCPM concludes the redefinition of these activities, under the provisions of the new strategy, and the reprogramming is done, it will be possible to determine the execution mechanisms. It is recommended that SURENA be responsible for three activities: Legislation and Policy Development, Environmental Education and Management Strengthening. See Annex IV of this report for details.

With the institutionalization of the changes, it is expected that the inter and intra-institutional coordination will be improved, including that between the central and the field offices. It is also expected to bear on the improvement of the efficiency, dynamics and expediting of the operational aspect of the Project.

In addition to the realignment of activities, the latest evaluation recommendations involve repeated analyses to obtain a NEW PANORAMA OF REQUIREMENTS (see Annex V), including a verification of all types of availabilities regarding professionals, paratechnicians, physical facilities and equipment; definition of priorities; determination of staffing patterns and training program; and budgeting adjustments conducive to the reduction of operational costs.

Bearing in mind the many aspects covered in the information available for the MARENA Project, including its evaluation reports, the NEW SURENA REAJUSTED PLAN is developed (See Annex III), whose preparation and corresponding implementation involves a postponement of the Project's deadline to July 1988. The adjustments to the Plan would emphasize the economic and financial aspects that have a bearing on the management and in the protection of the natural resources at the level of the new site: the watershed, as well as at the space where the production takes place: the lot or the farm. The plan, as a management tool, will maintain an appropriate equilibrium of three priority components, among many more that are included in its conformation. These are: (a) physical infrastructure coupled with adequate operation and maintenance; (b) technical, socio-economic and institutional services; and (c) selection of appropriate technologies to increase production and improve productivity.

It should be pointed out the forthcoming actions that we understand are required to successfully complete the MAREMA Project:

- Reprogramming of the cost of the MARENA Project.
- Institutional Improvement - approval and implementation of SURENA reorganization; carry out a reorganization study of all SURENA departments; develop a position classification study covering all SURENA personnel, create a multidisciplinary team to assist in the Project administration until its completion, strengthen the training plan and strengthen the technical assistance as required, specially through the incorporation of a team of natural resources experts. (See Annexes XVIII and XIX).
- Participation of the private sector and the materilization of work agreements or contracts - expedite conversations conducive to the formalization of these work agreements or contracts.
- Short-termed applied research - act as catalysts to make for a more dynamic Project.
- Speed-up actions in Watersheds Management Offices - start broadening the stragety and accelerate the organization of new watersheds.

We take this opportunity to submit two recommendations which, although out of our scope of work, are related to the functioning of the MARENA Project: We estimate that the possibility of placing the management of the natural resources solely under one institution should be considered in order to establish an integrated and clear public policy in the area of natural resources, and that all SURENA offices should be physically relocated in the same place or as near as possible

to each other in one building to propriate a closer coordination and supervision of the work done and to speed-up operations.

The continuation of the MARENA Project, taking in consideration the recommendations contained in this Summary, would bring about significant achievements in the area of natural resources and the strengthening of SURENA as an institution, all of which, in the long run, will benefit the Dominican Republic as a whole.

I. INTRODUCTION

The objective of the technical assistance is to assist the Under-Secretariat for Natural Resources (SURENA) of the Government of the Dominican Republic (GODR) to start the implementation of the several recommendations of the last evaluation of the Natural Resources Management Project (NARMA) so that it can attain its goals.

The six recommendations of the evaluators are related to institutional changes either from the operational or from the structural point of view. The technical assistance involves the following: (i) Determine the impediments for the implementation of the recommendations; (ii) Assist SURENA in the development of an Implementation Plan through December 1986; (iii) Assist SURENA to incorporate NARMA's functions and staff into its structure and in the development of a list of the required interinstitutional agreements to reduce operating costs, (iv) Assist Project staff in the definition of the new scope of work, its priorities, determine the information required for the development of the watersheds plans; identify the required technical assistance needed and initiate the planning recommended by the evaluators; (v) identify the planning and managerial training needs.

Towards this end, the Final Report should: identify any legal or institutional impediment to implement the recommendations; outline the implementation schedule and provide a flowchart identifying the

required critical activities and information needs to accomplish the work; identify the activities to be performed by SURENA and those covered by interinstitutional arrangements; and describe the planning and managerial training needed by SURENA staff.

To perform the above mentioned tasks, Clapp and Mayne, Inc. assigned two Institutional Specialists: Mrs. Alida Guzman and Mr. Renato Rossi. Mrs. Guzman as specialist in the management area; and Agronomist Rossi, Natural Resources Economist. As counterpart the AID-RD assigned Eng. Italo Russo.

Mrs. Guzman worked in the organizational phase and in the analysis of the legal and institutional aspects. Mr. Rossi assisted in the Implementation Plan, the identification of interinstitutional agreements, the new strategy definition and its priorities, and in the definition of the required information to establish new watersheds. Both specialists worked jointly in the identification of the training needs and of the assistance required. They traveled to Santo Domingo, Dominican Republic on April 13 and accomplished their tasks in that country until May 9, 1986, for a total of 23 working days.

In compliance with Article IV of our contract, on April 15, 1986, a work plan was submitted to USAID-DR, including a schedule of activities and the methodology for their development.

In carrying out the technical assistance, a series of interviews and meetings were effected with personnel 1/ from the Secretariat of

1/ See Annex XX

State for Agriculture (SEA) in general, and from SURENA in particular, as well as from AID-DR. In addition, we contacted some related government and private sector institutions, and two farmers from the San Jose de OCOA Watershed. As a representative sample, we also visited the OCOA Watershed Management Office and pertinent documents were examined and analyzed.

As basic documents the consultants examined, among others, the Dominican Republic Project Paper for Natural Resources Management, the Loan Agreement between the GODR and the U.S.A.; the Ronco Evaluation Report of April 1986; the Five Year MARENA's Institutional Strengthening Plan; the DR's Environmental Profile, SURENA's Structure and Functions, Project's Annual and Periodic Reports; Resolutions establishing units within SURENA, the Dominican Republic Constitution and natural resources related laws and regulations.

On Wednesday, May 7, 1986, two days prior to the team's departure, Mrs. Alida Guzman and Mr. Renato Rossi submitted five copies of a draft report in Spanish, with an English Executive Summary. The report was discussed with AID-RD related officials on May 9, 1986.

This Final Report contains the observations and issues agreed upon during the predeparture consultant's debriefing. The Report's Executive Summary briefly describes the technical assistance offered to SURENA and the report itself contains a detailed account of said assistance.

II. LEGAL AND INSTITUTIONAL ASPECTS CONCERNING THE RECOMMENDATIONS

The latest evaluation of the MARENA Project proposes basic recommendations upon completion of an analysis of the structure, functioning and prospects for the future of subject project. The recommendations are the following:

1. Replace the limited strategy of soil erosion control with a broad strategy of natural resources protection and management, to be applied on a watershed basis.
2. Institutionalize MARENA within SURENA
3. Immediate withdrawal of MARENA from the Nizao Watershed until organizational redesign can be completed both within SURENA and at the watershed level.
4. That SURENA plan immediately as to how best to allocate MARENA-developed resources, and that such plans be implemented without delay.
5. That remaining MARENA funds be reallocated.
6. Terminate dollar financial support to the NARMA Project as of July 31, 1988, contingent upon successful implementation of preceding recommendations.

With the purpose of determining the legal or institutional hindrances, if any, to implement subject recommendations, we have analyzed, among others, the following documents: The existing Constitution of the Dominican Republic; Act No.8 of September 8, 1965

which establishes the functions of the Ministry of Agriculture; Decree No. 1142 of April 28, 1966, the Organic Regulation of said Ministry and the Loan Agreement of August 31, 1981, between the Government of the Dominican Republic and the United States of America for the Management of the Natural Resources.

In addition, consultations have been carried out with SURENA officials, as well as with those of the Secretariat of State for Agriculture (SEA) and with AID officials concerned with the MARENA Project (See Annex XX).

Once the analysis of the law, the decree and the agreement was completed, and above mentioned officials were consulted, it was determined that there is no legal or institutional hindrance whatsoever to the implementation of the recommendations.

Based mainly on above cited statutory provisions, the six evaluator's recommendations were analyzed as follows:

With respect to the first recommendation dealing with the replacement of strategy, within the Project, it has been ascertained that the Minister is empowered by law to preserve the natural resources and foster their utilization. In addition, the loan agreement provides for the changing of the components of the detailed description of the Project through a written agreement of the parties representatives. It is convenient to point out that in broadening the strategy it should be borne in mind that the scope of action should be extended as far as the point where the integrated rural development

starts, inasmuch as this involves several institutions and municipalities governed by different special laws.

Recommendation number two, dealing with the institutionalization of MARENA within SURENA is feasible inasmuch as the law empowers the Minister of Agriculture to establish the organization and subsequent modifications within the internal structure of the Ministry. SEA has nationwide coverage through the Regional Directorates. The distribution of these Directorates has not been established on the basis of the special concept of the watersheds, which are the basic units for the planning and the management of the natural resources. To more effectively apply the governing norms of SEA on natural resources, it has been recommended that if conditions so require, special offices on watersheds management should be established in priority watersheds.

Based on the preceding statement, the evaluators have recommended the establishment of the Watersheds Management Offices (OMC). Nevertheless, it is of the essence to establish an effective coordination between the Regional Directorates and the OMC to avoid adverse results in SURENA's operational costs and the duplication of efforts in the natural resources area.

The third recommendation on the withdrawal of MARENA from the Nizao Watershed is within the legal power of the Minister with respect to the natural resources and in line with the loan agreement subscribed with AID which establishes that the watersheds should be organized prior to starting activities in the watersheds.

With respect to recommendations four and five for the planning of NARMA resources, and that the remaining funds be reallocated, the Minister is authorized to budget the activities to be executed by SEA. In addition, the planning and funds reallocation arise from a recommendation resulting from an evaluation called for in the loan agreement.

Finally, recommendation number six to extend the project as far as 1988 contingent upon compliance with the preceding recommendations, is within the provisions of the loan agreement between the Government of the Dominican Republic and of the United States of America.

The statements on this part of the report were in addition, discussed in general terms with the legal consultants on natural resources from Michigan State University under contract with GODR/AID, Drs. Fernando Gomez and Daniel Bronstein, who agreed with us that there is no legal or institutional hindrance for the implementation of subject recommendations.

See Annex I for legal details.

III. OPERATIONAL CHANGES

Within the scope of the institutional operational changes, it is included the broadening of the MARENA strategy which involves the reformulation of objectives and goals, increasing the participation of the private sector and the restructuring of the action plan established.

A. Broadening of the MARENA Project Strategy

Since its inception the MARENA Project action scope was based on erosion control. Nevertheless, upon the last evaluation of the Project on April 1986, recommendation number one suggests the replacement of the existing strategy with a broad one of natural resources protection and management to be applied on a watershed basis. In agreement with this, the Project's scope of action broadens and advances to attain a more significant and nationally impacting strategy to protect the natural resources and allow the proper management of the country's watersheds.^{1/} The Dominican Republic will pursue management goals through the joint efforts of the government, community organizations and the private sector (profit or non-profit). This joint effort should involve the institutional development and the development of long term profitability oriented watersheds and the adequate use of the

^{1/} Figure V-3-Hydrogeographic Divisions and Watersheds (OAS 1967) showing the Environmental Profile of the Dominican Republic, page 39, maps 14 watersheds in the whole country (July 1981 AID/SOD PDC-C 0247).

natural resources, in addition to the protection of the reservoirs (existing and potential) from the effects of sedimentation.

The new strategy in full implementation process, continues strengthening the erosion control and soil and water conservation measures enforced under the former strategy. Nevertheless, under the new strategy, the scope of action broadens to include other watersheds areas, and assure also protection and sound management of other resources, for example: mangroves and wildlife that the former strategy did not include.

The new strategy will also exert careful safeguard of its multidisciplinary character, without interfering with other fields of action. Thus, for example, its authority and responsibility will cover all the phases of rational and sustained land utilization, including seasonal and permanent crops; pastures and cattle breeding; forestry utilization and mixed agronomic systems. Nevertheless, the authority and responsibility of the new strategy should end where that of the Integrated Rural Development starts. The pursuit of the actions under the new broadened strategy, will, in addition, maintain its small producers clientele, and advances to reach the medium and large sized farmers and farms under other ownership forms in each watershed. Many of these new farmers practice the irrigation agriculture, which is capital intensive. Likewise, an upgrading of efficiency will be required from a team of experts, specially in selecting, promoting and applying new technologies.

The new approach will be developed within the ecosystem concept, for the analysis as well as for performance of activities and in agreement with the individual potentialities and characteristics of each watershed.

As a means to increase efficiency and adjusting the institutional capability of the public sector in the normative aspects of the development and conservation of the natural resources, the Dominican Government must enforce a set of coherent policies with specific plans for watersheds management, and must, in addition, take control of the natural resources planning at macro detailed national level. It should also monitor and evaluate the execution of the activities resulting from such planning and carried out by the private sector itself or in partnership with public sector entities and/or community groups. It should also appropriate the structuring of mechanisms that facilitate the involvement of the watersheds communities and provide for the training of technicians and users of all sectors participating directly or indirectly in the watersheds management.

B. Restructuring of the SURENA Plan

1. Critical Tasks

The implementation of the new strategy advances gradually affecting, in the last instance, the New Restructured SURENA Plan. (See Chart of Critical Tasks, Annex III). In this sense the MARENA work team is taking the required steps to readapt each one of the nine action levels shown in the Annex to the new reality brought about by the broadening of the strategy. The chart starts at level I,

pertaining to the report of the last evaluation. From the group of recommendations, those shown in the chart's second level, affect the most the New SURENA Restructured Plan, which constitutes level VIII.

The most important institutionally-wise recommendation, from the structural point of view, is the one referring to the restructuring of SURENA to incorporate MARENA (level II). To assure its participation in restructuring the Plan, it was deemed convenient: (a) propose a new organization chart (level III); (b) submit the proposal to the UnderSecretariat, obtaining its approval (level IV); (c) obtain the proposals's adoption by the Secretariat of State for Agriculture (SEA); and (d) include the new organization chart in the Plan (level VIII). The implementation of this recommendation, to which there is no legal or institutional impediment, has sped-up the progress of the assigned route, one of the three that constitute the framework shown in the chart.

The second route, as shown in the chart, is the implementation of the recommendation dealing with the Broadening of the MARENA Strategy, (level II), which resulted from the provisions of the PP 1/ depicting the situation of the Dominican Republic during the period 1982-86. This route, contrary to the first one, faces some difficulties, as indicate in the chart, levels III through VI. But the

1/ PP: Dominican Republic Project Paper, Natural Resources Management
- USAID Loan No. 517-T-035-Project No. 517-00126, August 21, 1981.

backbone of the situation is the analysis of activities, needs and availabilities (level IV) with the dual purpose of, first, going back to redefine the scope of action on one hand, and, on the other, approaching the Plan after developing four important components: priorities, staffing pattern, training plan and a budget with reduced operating costs, as indicated in one of the recommendations.

2. Rescheduling of Activities - Interinstitutional Agreements

The rescheduling of the sixteen MARENA activities should be a flexible one, mainly in the aspects concerned with the responsibilities for execution inasmuch as the direction of most of the activities should continue being SURENA's responsibilities under the Project's General Administration. Annex IV, without pretending to be an inflexible model, shows a rescheduling alternative, indicating, in addition, the purposes of each activity; the entities responsible for planning and supervision; execution responsibilities; the desirable institutional coordinations, and lastly, the financial mechanisms. If it is decided that SURENA maintains the authority for the direction of most of the activities, the required services could be contracted with the private sector, or carried out, through agreements, with different government entities.

In this way, eventually, the existing technical departments of SURENA, which are of an executive character and are operating at the OCOA and Las Cuevas watersheds level, will gradually evolve into normative entities and could embrace a broader geographical area, improve in efficiency, and act as catalytic agents in each of the

country's watersheds and in each one of the Subsectors comprising watersheds management.

Annex V, as well, shows five types of project needs, which in no way pretend to be restraining, related to: (i) technical assistance, (ii) training, (iii) equipment and vehicles, (iv) staff, and (v) financial assistance.

The technical assistance related to the 16 MARENA Project activities, in accordance with the spirit prevailing in the work sessions, should continue strengthening the efforts that already show positive results: for example, the achievements in the technical phase, as highlighted in the 1986 evaluation report. But it should also strengthen the Project's weak aspects, namely, those related with economics, administrative management, and the multidisciplinary character of the broadening of the Project's new strategy. This latter requirement could be satisfied by bringing together a multidisciplinary team composed of a minimum of three professionals with expertise in the fields of hydrology, agronomy, agricultural economics and zoning, and management and planning of natural resources.

The suggested multidisciplinary team could focus mainly in the analysis of the mass of information produced under the auspices of MARENA, emphasizing in the analysis and synthesis of activities showing delay in disbursements, such as Incentives Package, and Farmers Associations studies; or those of future impact such as the Development of Plans and Research in the Hillside Systems. The team will also be devoted to:

- (i) redefinition of problems and difficulties and its roots
- (ii) formulate alternatives and tactics to overcome them.
- (iii) propose, for further analysis and critical judgement, feasible programs to either solve or moderate problems identified.
- (iv) develop training materials for on-the-job training, inasmuch as an adequate level of technical skill is required to improve MARENA's efficiency.

To support management at the watersheds and farms site under the change involved in the broadening of strategy and the redefinition of MARENA's scope of action (levels II and III of the chart), the suggested multidisciplinary task force, would actively participate in the following:

- (i) development of planning manuals at watersheds and farms' level. Review, as well, written materials prepared as part of the "Plans Development" activity which is demanding analysis and critical judgements for its correct utilization; and
- (ii) formulation of terms of reference and technical guides concerning several aspects mentioned in the last evaluation such as, mapping of forms of geological erosion; 1/ correlation between the results of the agricultural zoning

1/ "This map could show types of natural soil erosion" - See page 73. Evaluation by RONCO Consulting Corp., April 1986.

activity and the objectives pursued through protection and management of the natural resources and the agroforestral production.

The need to devote more attention to operation and maintenance is closely related with the redefinition of the scope of action of MARENA. The new action site of the project is now constituted by each one of the entire watersheds, which are far from being uniform, either from the physical-ecological or the socio-economic points of view. In addition, within each watershed, there is a broader field of action, inasmuch as to the small farmers clientele, with their hillside farms and reduced physical infrastructure to operate and maintain, there have been added medium and large farmers who practice a diversity of mixed agricultural types of single crop under very dry and/or irrigation with physical infrastructure of a diversity of designs and worth that require adequate operation and maintenance. In addition, there are other forms of institutional ownership (state, municipal and other farms) and country zones adjoining inhabited centers that may have critical areas to be protected or infrastructure (channels, bridges, roads and other works) to operate and maintain. To summarize, each watershed requires the operation maintenance of infrastructure at the integral level and at the local or farm level.

Because of many of the reasons stated in the preceding paragraph, the production credit and mechanism (which is part of the Incentive Package activity), requires more attention. Its behavior, during the time MARENA has been operating it, leaves much to be

desired, as per the findings of the recent evaluation and the disbursement figures. There is a need to become more knowledgeable in this field and speed-up its utilization, because an adequate utilization will render favorable results.

It is also required to learn its behavior a priori, in view of the aggressiveness of the new clientele composed of commercially oriented farmers and producers automatically involved in the new strategy.

In general, these clientele possess farms with more capitalization that theoretically need production and commercialization credits. This clientele have more knowledge on agricultural diversification, cattle and forestry, inasmuch as they know of seasonal and permanent crops, including fruits, coffee, cacao and others. Among these clientele there are many who are good credit risks. The importance of the production credit deserves considering the convenience of securing private advisory services aimed at the dual purpose of emphasizing on the farm economic support as refers to the paying capabilities of the credit subject, and to speed-up the disbursement of the monies allocated for this activity.

In the course of time, a wealth of information on the Dominican Republic's natural resources has been gathered. This information could be organized to improve research and to apply it to the practical aspects of the management and conservation of the natural resources. MARENA's available funds for the activity Information Development, could finance the collection, organization, analysis and synthesis of

the information produced, including that of the Project that refers to research, to be used in the applied research in general on the management of natural resources.

3. MARENA Activities not to be Transferred to SURENA - Other Agreements.

The third route shown in the chart covers government and private institutions that would be responsible for the performance of activities or rendering services for their implementation under the direction of SURENA. The suggested method since their start (level II of the chart) up to their integration to the Plan (level VIII), consists of conversations and negotiations as well as the formalization of agreements with the government institutions and of contracts with the private sector. The development of this task is logical, with no difficulties, except those inherent to conversations, negotiations, agreements and contracts. In addition, Annex IV contains some details concerning SURENA's authority in the instances where supervision and execution of each activity is transferred to another state or private entities. Subject Annex also contains data on institutional coordination and possible financing mechanisms.

Beyond level VIII of the chart is the route showing the advancement towards other watersheds (level IX). This advancement is effected on the basis of a previous selection of watersheds resulting from the analysis of several parameters and criteria conducive to the establishment of priorities and decision making based on critical judgements. Once a watershed is selected, the procedure to follow is

outlined in chart VI which shows the progressive tasks concerning new watersheds.

4. Field Activities to be conformed to the New Strategy

The activities to be continued have been conformed to the new strategy taking in consideration, on the one hand, the need to carry out a feasibility study to determine the amount, quality and distribution of the natural resources, and, on the other hand, the redefinition of the existing situation to use it as a starting point. (Cost/Benefit Study "Zero Year" or "No Project Situation").

Subsequently the setting of objectives and goals within the reviewed activities is done. Then follows the decision on the adjustments to the operational plans being carried out in OCOA and Las cuevas, which may include an evaluation of what has been done and set the ground for a first analysis of the concepts and situations to determine the cost/benefit of the operation "with or without Project" as referred to in the PP. Subsequent actions are in agreement with the ones actually followed, namely, supervisions, follow-ups, monitoring, evaluations and feedback of budgets and operating plans. Likewise, and to assure the maintenance and improvement of the information and of the skills of the professionals and paratechnicians, a selective periodic review would be carried out (once or twice a year) of the technical and socio-economic factors of each watershed (ecosystem analysis) aimed at the protection and adequate management of the natural resources. Annex VII depicts a schematic review.

5. Implementation Schedule

Bearing in mind the givens, the achievements obtained as well as the awareness on the part of MARENA professionals, it is estimated that the tasks comprised in the implementation of the recommendation of the last evaluation will be completed by the end of the present year.

Included as Annexes II and VI are the Recommendations Implementation Schedule and the Implementation Schedule for the new Watersheds.

It should be pointed out that during the analysis of each one of the actions involved in each task within each route of the chart shown in Annex III, a broadened planning horizon of as far as July 1988 has been considered.

IV. STRUCTURAL CHANGES

Recommendation number two (2) of the last evaluation for the Management of Natural Resources Project (MARENA) refers to the institutionalization of MARENA within SURENA. This is most convenient to avoid parallel structures 1/ that increase operational costs and distort the organizational structure of SURENA thereby preventing a concerted effort towards a common goal at a national level thus benefiting the country.

With the purpose of assisting SURENA in the implementation of subject recommendation, an analysis of the provisions of the Constitution of the Dominican Republic was carried out, as well as of existing statutory provisions, as described in Chapter II of this Report. The existing organizational structure of SURENA was also analyzed; several meetings were held with all its department and office heads, including the Head of the OCOA Watershed Management Office and the Under Secretaries for Natural Resources and for Agricultural and Livestock Planning.

The present structural organization of SEA, with its Regional Offices, and of SURENA with its Watersheds Management Offices, was studied and discussed with the concerned officials. In the study, as well as in these discussions, the existing statutory provisions and the convenience of integrating functions were taken in consideration.

1/ Ronco Consulting Corp. MARENA Project Evaluation, English version, April 1986, P. 155, section 5.

Subsequently, the SURENA officials arrived at some conclusions in terms of the reorganization of the functions being performed by the MARENA Project. The proposed organization is responsive to the objectives outlined by the Government of the Dominican Republic in terms of the management and control of the natural resources in the country Watersheds, and at the same time is within the general theoretical organizational principles adapted to the actual organizational structure of the Secretariat of State for Agriculture.

A succinct description of the existing SURENA organization and of its staff follows, as well as our observations and comments.

Included also is a description of the proposed SURENA reorganization, the implementation process, and the most significant effects of such a reorganization.

A. Present SURENA Organization

The UnderSecretariat for Natural Resources (SURENA) is a part of SEA as shown in Annex VIII of this Report. The Under Secretariat consists of five operational departments, in addition to the Technical Coordination Office (OCT), the Coordinating Office of the MARENA Project (OCPM) and the Administrative Unit (See Annex IX).

Basically, the reorganization is to be found in the two above mentioned offices, since the Project is planned and coordinated by OCPM, and the OCT collect and analyzes the planning data for all SURENA projects with the exception of the MARENA Project.

The OCT and OCPM functions and staff are described below:

1. Technical Coordination Office

OCT is in charge of formulating different planning phases, from the diagnostic, programming and budgeting, to the evaluation of the activities developed by SURENA. In addition, it coordinates the activities intra and interdepartmentally, as well as interinstitutionally.^{1/}

This Office has been operating under the auspices of the MARENA Project, inasmuch as Article V - Section 5.2 of the Loan Agreement requires its establishment as a prerequisite for the coordination and management of the Project.^{2/} Towards this end in 1983 and through MARENA, the Planning and the Legal Affairs Units were created, and in 1984, the Evaluation and the Budget and Control Units were created.

All in all, the OCT consists of six units (See Annex X). Among those we are concerned with are the Planning, Evaluation, Budget Control and Legal Affairs Units. They have the following functions:

Planning Unit

This Unit is in charge of formulating the programs, plans and projects to be carried out by the different Departments and Regional Units of the Subsecretariat for Natural Resources.

1/ SEA, SURENA. Structures and Functions of the SURENA Departments and Offices, January, 1985.

2/ Loan Agreement Between the GODR and the USA for the Management of Natural Resources, August 30, 1985, Article V, Section 5.2, page 7.

Evaluation Unit

This unit is in charge of evaluating periodically the activities developed by the different departments, regional units and offices of the Subsecretariat for Natural Resources within the framework of the previously planned activities.

Budget Control Unit

This Unit is in charge of the formulation and control of the budget of the Natural Resources Development Project.

Legal Affairs Unit

This Unit is in charge of formulating the policies and conducting the legal affairs on the Natural Resources.

Presently the OCT has a staff of 22 employees, of which 10 are paid by the MARENA Project, including the salary of the Director. Annex XI contains a detailed staffing pattern, by units, including personnel functions and salary source.

As a result of a change in the Project's administration strategy, as shown under caption 2, which follows, the OCPM has absorbed all the planning functions of MARENA, in addition to its coordination and administration. The OCT does not interfere with the MARENA planning, even though it continues planning the rest of the projects developed by MARENA.

2. Coordinating Office of the MARENA Project

The OCPM is in charge of the operation and execution of the MARENA Project. Its main objective is to ensure the efficient development and the integration of all the activities in terms of the

technical and administrative aspects so that the programmed goals and objectives can be attained. As part of its functions, it coordinates and directs the operations of the Watersheds Management Offices (OMC), located in the different watersheds throughout the country.

The OCPM is composed of two units: the Technical Unit and the Administrative Unit. These units are under the direction of the General Coordinator of the Project who in turn reports to the Project Director, the UnderSecretary for Natural Resources.

The Technical Unit is in charge of the administration, evaluation and budget control of the Project. The Administrative Unit is in charge of all of the OCPM's administrative operations and of providing logistic support to the different OMC's. Annex XII of this Report depicts the actual organization chart of the MARENA Project.

At present OCPM has 20 employees, of which 14 are financed by the MARENA Project, including the Coordinator and his principal assistants. Annex XIII lists its personnel, by units, their functions and their salary source.

a. Organization at the Watershed Level

The execution and coordination of the Project activities at the field level are carried out by the Watershed Management Offices (OMC) which report to OCPM. At present, only two of these offices exist, one at OCOA and another at Padre Las Casas, and it is contemplated that new offices will be established as needed. Not every watershed will necessarily have an OMC.

The OMC has technical and administrative resources to fulfill its functions and presently has representatives of the Departments of Soil and Water Inventory, and Environmental Education.

According to the information provided by different SURENA officials, there is confusion in the OMC supervisory areas and it is not clear if its personnel should report to the person in charge of the OMC or to their corresponding departments.

The OMCS work in coordination with the Watersheds Development Committee (CDC) of its community. This Committee is composed of representatives of the private sector of each zone, representatives of the community, the zone Agricultural Regional Director or his designee, and representatives of the public organizations related to the project at the local level.

The current organization of the OMC is shown in Annex XIV.

Although we were unable to obtain clear and exact information on the OCOA OMC staff, by units, upon a brief visit to that Office, listings were provided to us showing a total of 46 employees. Fourteen (14) of them belong to the Administrative Unit. In addition, we obtained a list of 19 paratechnicians that work in OCOA. Annex XV consists of the lists provided to us.

On the other hand, we should point out, that while visiting the OCOA Watershed, we were informed, among other things, that occasionally there are delays in the replenishment of the Revolving Fund they operate, causing delays in the execution of the Project.

B. Observations on the Present SURENA Organization

The following observations are based on an analysis of the existing organization and as a result of the meetings and interviews carried out.

1. The OCPM coordinates only the MARENA Project. If its functions are intended to be institutionalized in SURENA, it is necessary to create an office to coordinate all the natural resources at watersheds level and officially locate the OMCs in the Under Secretariat.

2. It is necessary that the watersheds have representatives of all SURENA departments as needed, if the strategy is to be broadened, and all natural resources managed at field level.

3. Clearcut supervisory levels should be established for the OMCs field staff. The compliance with the internal control principle in clearly fixing responsibilities and supervision is essential for an effective and efficient performance, speeding up operations at watershed level.

4. OCPM, as well as OCT, carry out planning functions, although each department plans and designs their projects in detail. The first office does the planning of the MARENA Project activities, and the second collects and analyzes data relative to the planning of the other SURENA projects.

If the institutionalization of the MARENA Project within SURENA is intended, obviously all the planning functions should be centralized in only one office. This should be done if the capabilities of the

available resources are to be utilized in full, as well as benefitting from the wealth of experience of the existing staff. This action would bear positively on the operational costs and would provide an integral overview of all projects at a programmatic level.

In addition, the concentration of the planning, execution, and evaluation functions in the same office violates the most elementary principles of internal control of responsibility separation for related sequential operations. Thus, the planning and evaluation functions should be separated from the administrative and execution functions.

5. It is noted that the Legal Affairs Unit of OCT reports to the Technical Coordination Office while there is a Legal Counsel Office which reports to the Secretary of State for Agriculture. The basic administration principles establish that advisory staff should report to the chief executive and should not be subordinated to any particular office or department. This is essential in order to achieve integration of goals and the coordination of efforts in the discharge of the functions assigned to the organization.

C. Reorganization of SURENA

SURENA reorganization is depicted in Annex XVI. It was discussed with concerned officials of the UnderSecretariat and approved by Dr. Eng. Juan Antonio Gonzalez, UnderSecretary for Natural Resources, at a meeting held on May 6, 1986. The proposed structural alignment includes, in addition to the Administrative Unit and the existing operational departments, the Programming, Budget, and Evaluation

Office, the Resources Management Office and the Legal Counsel at the level of the UnderSecretary for Natural Resources.

The functions to be assigned to these offices are described in the following section:

1. Programming, Budget and Evaluation Office

This Office, that at present operates under the name of Technical Coordination Office, would be responsible for the integrated formulation, at macro level, of the activities, programs and projects plans developed by the several SURENA departments and offices, including those of the country's watersheds, carrying out its functions in coordination with the executing departments and offices. It is a must that this Office operates in close coordination with the Technical Under Secretariat for Sectoral Agriculture and Livestock Planning of the Ministry of Agriculture which, in turn, is coordinated by the National Planning Office (ONAPLAN) attached to the Presidency's Technical Secretariat.

This would propitiate the systematic consolidation of the planning process from the national level to the ministerial level, with an integrated area approach in a collective effort towards the attainment of specific goals.

To avoid confusion with the sectoral and national planning offices, it was agreed to designate the structural unit within SURENA in charge of planning, as Programming, Budget and Evaluation Office. In this way, a uniform and coordinated structure would be maintained

within the different areas of the Secretariat of State for Agriculture and the office title would be responsive to its functions.

The office could be created, essentially, utilizing the present Technical Coordination Office, as recommended by the evaluators, and, for the time being, could be composed of said office's staff in charge of programming, budget control and evaluation, as well as personnel of the MARENA Project Coordinating Office devoted to the planning function.^{1/}

We are of the opinion that this office personnel should be, at least, bachelors in economics, finance or business administration, knowledgeable in and with planning experience. It is desirable, though, a Masters degree in natural resources economic planning. In addition, this office should have personnel with education and experience in information systems.

2. Resources Management Office (OMR)

This office would be responsible, among others things, for coordinating and controlling the Watersheds Management Offices (OMC) at field levels; coordinating the intra and interinstitutional activities concerning the natural resources management; channeling the required resources to the field; coordinating the allocation of approved funds, and overseeing and orienting the execution of watersheds related projects.

^{1/} Ronco Consulting Corp., Op. Cit., p.28, first sentence

For a thorough achievement of its functions the office must maintain a close coordination relationship with the departments of the UnderSecretariat and with the institutions that in one way or another are related with the country's natural resources. In the case of a project with external financing, it should be coordinated with the External Resources Department of the Secretariat's Technical UnderSecretariat for Sectoral Planning. In these cases, duplication of functions between OMR and subject Department should be avoided.

The Resources Management Office could be staffed with the personnel presently responsible for the management, execution and coordination functions in the MARENA Project Coordinating office.^{1/} We are of the opinion that this office should have, at least, an agronomist specialized in natural resources management, an agricultural economist specialized in agro-ecological analysis, and a forestry specialist. Matters related to aquaculture and wildlife would be taken care of in coordination with the corresponding departments.

a. Reorganization at Watersheds level

The adoption of the new strategy requires, among other things, the broadening of the scope of action of the field offices and thus they should have their Technical Unit with professional staff from

^{1/} Ibid., second sentence

SURENA departments. They should work in close coordination and should be assigned to the watersheds on a full time basis, reporting to the OMC head. The OMC, in turn, will report to OMR.

It should also be pointed out that the professionals assigned to OMC who are responsible for the analysis of the Farms Conservation Plans, will be more active. With the incorporation of medium and large farmers who are more commercially inclined, increased production of commercial credit will be required. This will have a bearing on these professionals of the Technical Unit who must broaden their field of action through the approval of farm plans prior to their referral to the Agricultural Bank or to the participating banks and, subsequently, monitoring the execution of these plans.

The Administrative Unit, in turn, will broaden its functions to satisfy the demands of the wildlife, pisciculture and/or aquaculture.

Annex XVII shows the proposed OMCs structural organization. It depicts the relationship of this Office with the Central Resources Management Office (OMR), the Watersheds Development Committee, and government or private institutions involved in the activities to be developed.

We believe that the field staff for the conservation and maintenance of a watershed should include, at least, the following: an agronomist experienced in watersheds management, a natural resources specialist, a forestry specialist, a pasture specialist and a biologist

responsible for wildlife and fishery resources. There should be a part-time hydrologist and a geologist on an as required basis.

3. Legal Counsel

This Office will be responsible for advising the Under-Secretary for Natural Resources, as well as the departments and offices, on the legal aspects involved in the management of the natural resources and of the officials responsible for this program. The Office will report to the UnderSecretary and will also be responsible for the drafting, analysis and review of related laws, decrees and resolutions.

SURENA's Legal Counsel and the Legal Advisory Office of the Secretary of State for Agriculture should work in close coordination towards a concerted action as to the Secretariat's general goals and those specifically applicable to the natural resources area.

It should be pointed out that it is recommended that in the future, when institutionally feasible, SURENA's Legal Counsel technical functions be integrated with the Secretariat's Legal Advisory Office, even though physically and administratively located in the Under-Secretariat. In this way a more effective, real and concrete coordination of functions would be attained.

D. Implementation Process

In order to implement the recommended reorganization, it is necessary to carry out a position classification study, as well as of the staffing pattern in the Technical Coordination Office and in the MARENA Project Coordinating Office aimed at correctly classifying

existing positions and locating personnel according to education, experience and functions. Once the analysis is effected, it would be possible to identify the personnel to be located in each one of the recommended offices and which would be advisable to locate either in other SURENA units or in the Agriculture Secretariat.

Meanwhile, until the study is carried out on the basis of the staff shown in Annexes XI and XIII, and as a temporary measure, all personnel working in the planning phase could be located in the Programming, Budget and Evaluation Office, and those working in the project management, execution and coordination, in the Resources Management Office.

In order to institutionalize this reorganization, it is required that the Secretary of State for Agriculture, as per the authority vested in him by Article 3, Section f of Law No. 8, approves a resolution establishing the new SURENA organization.

E. Basic Outcome of the Reorganization

We should point out that the proposed recommendations will have the following basic effects:

1. Institutionalization of the Resources Management Office, heretofore known as OCPM and of the Watersheds Management Offices (OMC).
2. Representation, as needed, of the SURENA departments in the OMCS.
3. Clearcut supervisory lines for the different department employees located in the watersheds.

4. Consolidation of all planning functions for all SURENA activities, programs and projects.

5. Transfer of the Legal Counsel from the Technical Coordination Office to the Office of the UnderSecretary for Natural Resources.

V. SUBSEQUENT ACTIONS

A. Specific Actions

Among the actions that are required in the near future to successfully complete the MARENA Project, are the following:

- (i) Reprogramming of the cost of the MARENA Project activities
- (ii) Institutional improvement
- (iii) Activation of the production credit
- (iv) Speeding up actions in field offices
- (v) Participation of the private sector and materialization of work agreements or contracts.
- (vi) Fostering short-term applied research

First of all, it is necessary to REPROGRAM THE COST OF THE MARENA PROJECT ACTIVITIES taking in consideration the new strategy.

In connection with INSTITUTIONAL IMPROVEMENT, the approval of SURENA's reorganization by the Secretary of State for Agriculture is required, followed by its prompt implementation. Then, it is necessary to carry out a study for the reorganization of all departments in subject UnderSecretariat, as well as a position classification and personnel functions study, in order to relocate the staff according to their education, experience and assigned functions. This could include the preparation of a functions manual. As indicated elsewhere in this Report, it is advisable, in addition, to create a multidisciplinary task force with, at least, three professionals with expertise in agronomy, hydrology, natural resources management, economics and

agricultural zoning. This task force would support and would be particularly useful in the analysis of problems and project restraints and in the production of critical judgement and alternative solutions to improve the day to day conduct of the daily actions required.

The task force would also be useful in carrying out the analysis, synthesis and processing of the data produced by MARENA, specially of the planning and administration functions, and in the preparation of manuals and guides for plans design and the conduct of trainings and seminars.

For the ACTIVATION OF THE PRODUCTION CREDIT, it is necessary to redefine the pertinent aspect within the activity Incentives Package. It is convenient to improve the production credit services offered by the Agricultural Bank and/or by the institutions responsible for the credit mechanisms, as well as by the Watersheds Management Offices (OMC). The latter will continue for a while with the farms planning tasks, until the private sector replaces them in this function. Even after the private sector takes over total responsibility for the preparation of farms conservation plans, the OMCs will continue evaluating the plans before submittal to the credit institutions for final approval and subsequent execution. In addition, they would be involved in the selection of production and management techniques, applicable to crops or profit enterprises aimed at the highest possible increase in yields and farmers' income. This would stimulate the conservation of the natural resources allowing for their sensible

utilization, without excessive protectionism and no waste, thus assuring the agro's safety and well-being.

The SPEEDING-UP OF ACTIONS IN THE FIELD OFFICES involves not only the broadening of actions in the two pilot watersheds (OCA and Las Cuevas) as per the new strategy, but extending the coverage to other watersheds, directly benefitting a larger number of producers in the agricultural sector. This would broaden the area of conservation and adequate management of the natural resources, thus permitting the dynamization and speeding-up of the disbursements under the Project's auspices. It would indirectly make extensive to a larger clientele the benefits derived from the execution of all the Project's activities.

The PARTICIPATION OF THE PRIVATE SECTOR AND THE MATERIALIZATION OF WORK CONTRACTS AND AGREEMENTS could be extensive to almost all the services involved in each one of the sixteen MARENA activities. The conversations conducive to the formalization of these work contracts or agreements should be sped-up. As the formalization of contracts to institutionalize their actions advances, the Project's dynamism would increase and consequently, the disbursements. On the other hand the participating contractors and advisors would benefit from the improvement of the institutional capabilities.

The SHORT-TERM APPLIED RESEARCH would strengthen the Project's operations which, to a certain extent, is a sign of progress. The applied research could be a key complement to the information produced or the technology added and could become a powerful catalyst to enliven the Project.

The continuation of the MARENA Project taking in consideration the aforementioned points will render significant achievements in the area of natural resources and in the strengthening of SURENA as an institution, with the resulting benefit to the Dominican Republic in general.

B. Training Needs in Planning and Management

To become gradually adequate to the demands of the new strategy, a training in economic and financial analysis similar to that offered by the Economic Development Institute (IDE) of the World Bank, is required. This kind of training is becoming more and more institutionalized since 1955 to date and is in agreement with the recent evaluation recommendation for the improvement of financial analysis, cash flow and economic analysis. The book written by Price Gittonger and the Spanish monographs by Orlando Espadas constitute the framework for these trainings.^{1/} The IDE monographs contain a good number of analyses of practical cases of watersheds development projects partially funded by the World Bank. OMR, OPPE, Inventory Department and OMC professionals should attend these trainings that could have a three months duration.

Trainings in forestry, range management and several types of cattle breeding would be very useful in connection with the Projects broadened strategy. Selected paratechnicians could attend these training and the courses could have a one-month duration each.

^{1/} Economic Development Institute c/o The World Bank, 1818 H Street, N.W., Washington, DC 20433, U.S.A.

In addition, it is highly advisable that the OMC and the OCOA Watershed staff (as pilot-watershed) make a study and observation trip of at least two weeks to two countries: one operating small and medium sized watersheds and another operating large ones. This types of training is highly beneficial to the personnel, inasmuch as they would be exposed to new techniques and experiences that could be adapted to the Dominican Republic operations.

On the other hand, the multidisciplinary task force recommended elsewhere in this Report could be utilized as an on-the-job training tool, specifically in project planning and management.

Nevertheless, it is convenient to fund training, on a continuous basis, in planning, programming, budgeting and evaluation, addressed to all concerned OPPE staff. We recommend that the training be available to personnel with or without related higher education in order to strengthen and refresh their knowledge and to make the planning process more efficient and effective. These trainings could have a one or six months duration, respectively.

To implement a comprehensive natural resources system in connection with the information systems, it is necessary to train the concerned personnel by means of an on-site training program through observation and study trips, of at least two weeks duration, to countries with similar systems in operation. The selected countries should be of an idiosyncrasy resembling that of the Dominican Republic in order to obtain positive results in implementing the system in the D.R.

In addition, once the system is mechanized, all SURENA executives should attend training seminars on data processing for users of the information systems. Usually, these seminars last one week and are offered free of charge by the companies representing this equipment, to develop the executives' capabilities in the use, operation and knowledge of the system, thus facilitating their performance in this field.

Annex XVIII is a listing of the recommended trainings, indicating type of training, related activity, participants and estimated duration. The estimated training costs may vary according to resource and place of training.

It is convenient to indicate that the trainings should be offered utilizing local resources. If this is not possible, or the country does not have the required technology, outside consultants should be contracted to offer the trainings locally. As a last resort, the trainings should be offered outside of the country.

C. Technical Assistance Needs

We consider highly advisable the offering of continued technical assistance to SURENA in the field of management and planning if the success of MARENA's Project goals are to be attained, and its personnel is to be able to manage the natural resources efficiently and effectively, even beyond the completion of the Project. We estimate that the following technical assistance should be secured:

1. Continue efforts in agreement with the results of the recent evaluation

We are of the opinion that MARENA should have a multidisciplinary task force with experts in agronomy, hydrology, natural resources management and agricultural economics and zoning to collaborate day to day with SURENA up to the termination of the Project. It should be responsible for the following functions, among others: redefine the situation and related problems and its causes in the light of the last evaluation and of our technical assistance; prepare action programs and assist in their implementation to solve existing problems; prepare training materials and guides on the different areas of natural resources management.

2. Carry out studies and assist at sectoral level in the following matters:

a) Institutional organization and coordination - with the purpose of obtaining an overview of the organization and functioning of the agricultural sector and of the natural resources, and how MARENA like projects can contribute to solve their problems or satisfy their needs. This study should include:

- (1) Analysis of structural organization at central and autonomous institutions level.
- (2) Existing coordination and operational procedures used.
- (3) Budget used in the sector
- (4) Recommendations

b) Production Credit - To establish and organize an effective and efficient mechanism based on economic availability of credit and

paying capabilities of potential users. This is part of the "Incentives Package" activity and the utilization of these funds should be sped-up.

c. Applied Research - With the dual purpose of utilizing the information produced with the invested funds and obtain new technology for prompt practical application, technical assistance should be contracted for specific research with a completion time limit. This should be coordinated with government and non-government institutions doing related research in the country.

3. Carry out studies and assist at program level, as follows:

a. Training and direct support in the organization and operation of the Programming, Budget and Evaluation Office. It is also required to establish the guidelines for carrying out the planning functions and assist in their development during a reasonable period (an estimated three months). This would enable the staff to carry out their work satisfactorily after the termination of the project.

b. Design of a comprehensive Information System for Natural Resources, including coordination with interrelated institutions. It is indispensable to establish a modern information system for decision making at all levels of the natural resources program.

c. Review of the Projects Accounting System - This system should be functional and provide the required complete and sound reports on time to all levels involved to ascertain the adequate daily operation.

d. Reorganization of all SURENA department and administrative units - The new established strategy will not be operational until all the SURENA organization is adapted and focused to it. On the other hand, the existing procedures and practices may be delaying the Project's operations, consequently affecting the attainment of the established goals. The efficiency in programs administration depends largely on the degree of efficiency of the administrative units, inasmuch as all supportive services are offered by them (purchasing, payments, replenishment of revolving funds, etc).

e. Classification and functions of SURENA staff with the purpose of locating personnel in accordance with education, experience and functions assigned. Once the SURENA reorganization is approved, it is necessary to identify the personnel to be located in each office, unit or department and those to be located in other SURENA offices or SEA.

Annex XIX shows a succinct listing of the Technical Assistance Needs.

4. Carry out studies at watersheds level related to renewable resources in order to comply with the new strategy that involves all the watershed's natural resources and all related activities. This assistance could include:

- a. Types of resources
- b. Land utilization
- c. New technology
- d. Socio-economic needs

VI. RELATED ADDITIONAL RECOMMENDATIONS

As a result of the technical assistance offered, it is deemed advisable to submit some recommendations that, although transcending our scope of work, are somehow related to the MARENA Project.

- A. The possibility of allocating under one institution the management and administration of the natural resources should be studied.

We understand that this would be a sound move in order to establish an integrated and clear public policy related to the country's natural resources. At present, their management is dispersed throughout different centralized and decentralized government institutions. This practice may create confusion in complying with the public policy and hinder the required coordination. The placement of responsibility on one institution, be it directly or through subordinate entities, would facilitate the coordination and development of the established public policy governing the natural resources.

- B. The UnderSecretariat for Natural Resources should be physically relocated.

This relocalization will bring together all its components in the same place, or as near as possible to each other within the same building. This would propitiate a closer coordination and supervision of the work performed and speed-up operations. At present the SURENA offices are dispersed throughout different buildings and floors, thus delaying and hindering the efficient coordination and supervision of the Program.

A P P E N D I C E S

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LEGAL REFERENCES RELATED TO THE IMPLEMENTATION
OF THE RECOMMENDATIONS

Law No. 8 of September 8, 1965, provides in Article 1 (f) that it is the responsibility of the Ministry of Agriculture to preserve the renewable natural resources, regulate their use, increase them and foster their rational utilization.

Article 3 (c, d, f, h and i) of subject Law indicates, among other things, that the Minister is empowered to formulate the budget to cover the Ministry's activities, and to authorize funds disbursement; establish the organization and pertinent modifications of the internal structure of the Ministry and approve and enter into agreements, on behalf of the government, with other governmental agencies, private contractors and/or international agencies, respectively.

Article 7 of Law No. 8 establishes as functions of the Natural Resources Vice Minister, the fostering of the preservation of said resources and the stimulation of their rational utilization and increasing the renewable natural resources.

The Regulations of the Ministry of Agriculture, Decree No. 1142 of April 28, 1966, establishes in its Article 4, among others, the functions of the then office of Planning, Coordination and Evaluation, presently known as Technical Secretariat of Sectoral Agricultural Planning, and in its Article 23, the functions of the Regional Directorates. With respect to the first Office, it states that it will study and determine the country's needs as refers to natural resources, will carry out programs evaluations and will prepare the budgets. The

Regional Directorates are charged with the responsibility, among others, for the supervision of the programs development; oversee the compliance of the legal provisions on natural resources; coordinate with departmental heads, and direct and coordinate the technical and administrative tasks of all Ministry personnel in the zone.

The Loan Agreement of August 31, 1981, between the Government of the Dominican Republic and the United States of America, defines in its Article II the project to be carried out. It provides that the limits and the components of the project can be amended through written agreements of the authorized representatives. Article III, Section 313 establishes July 31, 1986, or any other date per agreement of both parties, as the termination date of the project. Article V, Sections 5. 6, and 5. 7 establishes as conditions prior to the development of activities in the OCOA and Las Cuevas watersheds, a detailed management and development plan including proof of establishment of an office and committee at natural resources level in the watershed. Article VI, Section 6.1, deals with the project evaluations, and Article D of the Project's Loan Standard Provisions Annex establishes the provisions for Cancellation and Resources on the part of the borrower and of AID.

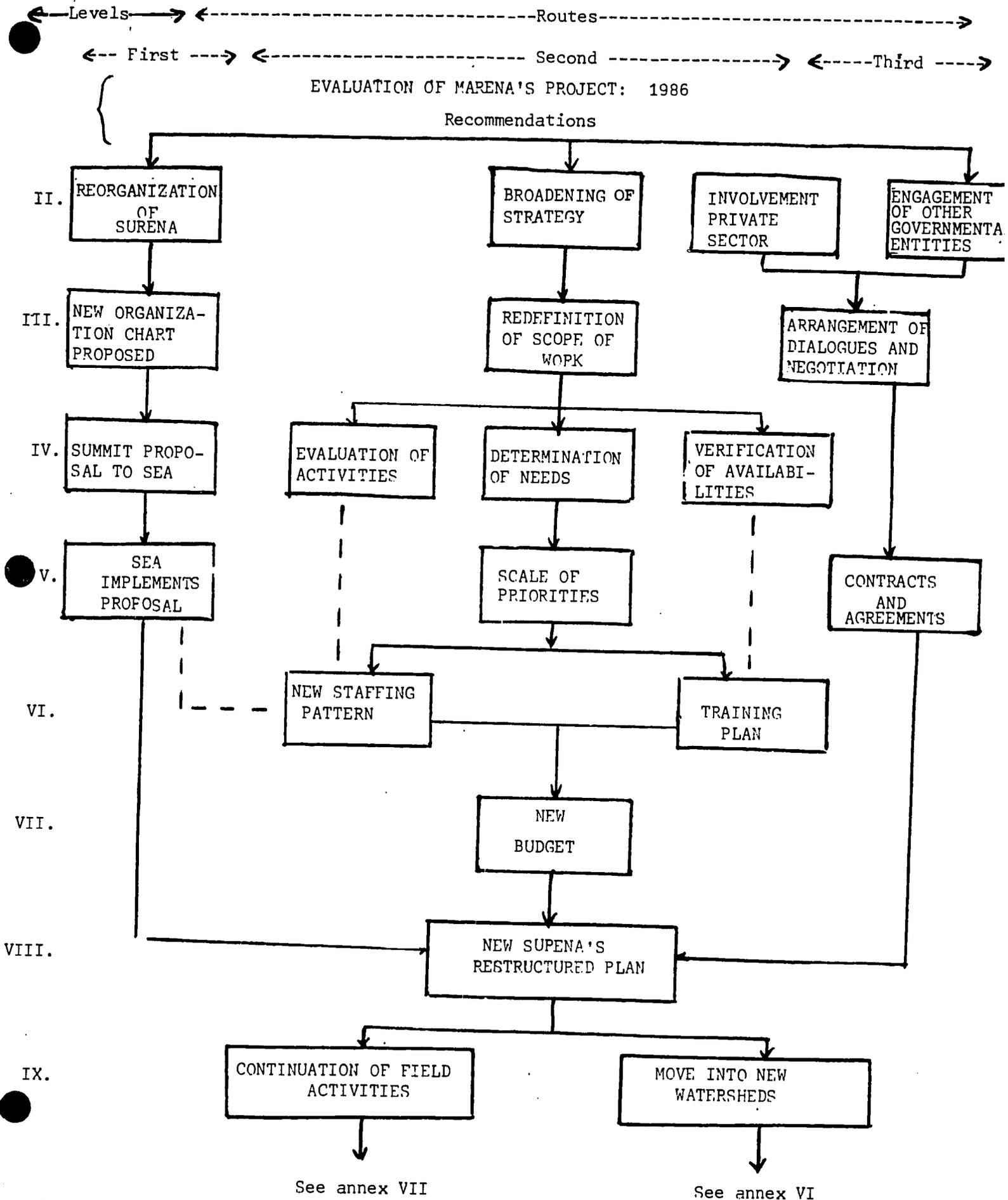
IMPLEMENTATION SCHEDULE

RECOMMENDATIONS	1 9 8 6									1987	1988	
	April	May	June	July	August	September	October	November	December		July	
1. Broadening of Strategy												
a. Redefinition of scope of work												
. Activities												
. Needs												
. Availabilities												
. Priorities												
b. Staffing Pattern Adjustments												
c. New Training Plan												
c. Funds and Budget Reallocation												
2. Private Sector Involvement												
a. Negotiations												
b. Agreements												
Commitment of other governmental Entities												
a. Dialogues												
b. Agreements and/or coordinations												
3. Restructuring the new SURENA Plan												
a. Movement into new watersheds												
b. Continuation of Field Activities												
4. Institutionalization of MARENA within SURENA												
a. Organization chart incorporating MARENA												
b. Approval of the Reorganization												
5. Withdrawal of MARENA from NIZAO watershed												
6. Terminate dollar financial support												

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May 1986

Y.P.

CRITICAL TASKS CHART



See annex VII

See annex VI

RESCHEDULING OF NARMA PROJECT ACTIVITIES

<u>NARMA Project Activities</u>	<u>Purpose</u>	<u>A U T H O R I T Y</u>		<u>Responsibility for Implementation</u>	<u>Institutional Coordination</u>	<u>Financial Systems</u>
		<u>Planning</u>	<u>Monitoring</u>			
I. TO BE INTEGRATED INTO SURENA						
1. Cartography	a. Remote Control b. Aerial photography c. Mapping capability	IGFFA IGFFA SURENA	IGFFAA IGGFAA SURENA	IGFFAA or P. Sector IGFFAA or P. Sector IGFFAA or P. Sector	SUTEPLAN/ONAPLAN SUTEPLAN/ONAPLAN SUTEPLAN/ONAPLAN	Agreement Agreement Contract
2. Erosion/Water Quality Monitoring	a. Erosion monitoring b. Water quality monitoring	SURENA SURENA	SURENA SURENA	INDRHI or P. Sector INDRHI or P. Sector	SUTEPLAN/ONAPLAN SUTEPLAN/ONAPLAN	Agreement Agreement
3. Agricultural Zoning Studies	Improve land use and management	SURENA	SURENA	NGO or P. Sector	SUTEPLAN/ONAPLAN	Contract or grant
4. Small Farmers Association Studies	To understand the situation of Small Farmers Association for planning watershed management purposes	SURENA	SURENA	NGO or P. Sector	SUTEPLAN/ONAPLAN	Contract
5. Development of national and watershed management plans	To develop capability for Natural Resources Planning at the national and at the watershed level	SURENA	SURENA	NGO or P. Sector	SUTEPLAN/ONAPLAN	Contract
6. Legislation and Policy Development	To improve policy making procedures through the renew of the legislation and legislative processes.	SURENA	SURENA	SURENA	SUTEPLAN/ONAPLAN/ CONGRESS	Available funds
7. Environmental Educational	To develop public awereness about the significance of sound use of natural resources	SURENA	SURENA	SURENA	SUTEPLAN/ONAPLAN/SEE	Available Funds
8. Strengthening Inter Agency Administration	To develop an interagency capacity to coordinate natural resources activities	SURENA	SURENA	SURENA	SUTEPLAN/ONAPLAN	Available funds or Transfers

RESCHEDULING OF NARMA PROJECT ACTIVITIES

<u>NARMA Project Activities</u>	<u>Purpose</u>	<u>AUTHORITY</u>		<u>Responsibility for Implementation</u>	<u>Institutional Coordination</u>	<u>Financial Systems</u>
		<u>Planning</u>	<u>Monitoring</u>			
I. TO BE INTEGRATED INTO SURENA						
9. Soil Survey and Interpretation	The study, classification and mapping of soils	SURENA	SURENA	NGO or P. Sector	SUTEPLAN/ONAPLAN	Contract
10. Farm Conservation	Soil and water conservation to reduce total erosion	SURENA	SURENA	NGO or P. Sector	SUTEPLAN/ONAPLAN	Contract
11. Watershed Protection	Protection of critical areas in each watershed	SURENA	SURENA	NGO or P. Sector	SUTEPLAN/ONAPLAN	Agreement
II- TO BE TRANSFERRED TO OTHER GODR AGENCIES						
12. Marketing Studies	To develop information about marketing systems	SURENA	SUPRAME	SUPRAME	SUTEPLAN/ONAPLAN	Agreement/Contract
13. Agroforestry and Forest Management Planning	To develop capability for planning, management and conservation of the country's forests	SURENA	DGF	DGF	SUTEPLAN/ONAPLAN	Agreement
14. Road Construction Planning Development	To develop planning strategy for road construction to include the protection of natural resources	SURENA	SEOPC	SEOPC	SUTEPLAN/ONAPLAN	Agreement
III..ADEQUATE FOR IMPLEMENTATION BY THE PRIVATE SECTOR						
15. Incentive Package	To provide incentives through donations or a credit mechanisms to stimulate farmers about the use of natural resources conservation system	SURENA	BANAGRICOLA/ Contractors	BANKS	CENTRAL BANK	Agreement
16. Hillside Farming System Research	To produce information and technologies at the watershed level	SURENA	Subsecretaria for Agriculture and Livestock Investigators	P. Sector	SUTEPLAN/ONAPLAN	Contract

IGFA - Armed Forces Geographic Institute
SUTEPLAN - Technical Sub-Secretariat for Planning of Agricultural Sector
P. Sector - Private Sector
SURENA - Sub-Secretariat for Natural Resources
INDRHI - Natural Hydraulic Resources Institute
ONAPLAN - National Planning Office
SEE - Secretariat of State for Education
SUPRAME - Subsecretariat for Production and Marketing
Agreements - with governmental entities
Contracts - with private entities
NGO - Non governmental organizations
DGF - Directorate General for Forestry

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Project Needs

- I. Technical Assistance related to the 16 Activities to:
1. Continue efforts as per 1986 evaluation
 2. Strengthen watersheds and farms management as well as providing adequate protection to the natural resources.
 3. Enter in operations and management aspects, specially in watersheds with irrigation agriculture.
 4. Studies at sectoral level:
 - (i) Institutional organization and coordination - To consolidate institutional strengthening
 - (ii) Production credit - With the dual purpose of identifying and quantifying the components of the Incentives Package Activity and to speed-up the utilization of the funds pertaining to Production Credit Activity.
 - (iii) Applied research - With the dual objective of utilizing the information produced based on funds already invested under the Hillside Systems Research activity, and obtain the production in-situ of new technologies for immediate practical application.
 - (iv) Hindrances to growth - To find out solutions to problems encountered in the execution of MARENA's several activities, for example, concentration in technical aspects in detriment of financial and economic aspects, in order to maintain an adequate balance and prevent distortions.
 5. Studies at watershed level
 - (i) In renewable resources - With the purpose of complying with the broadened new strategy that involves all the natural resources of each watershed and all the activities resulting from their adequate management.
 - (ii) Land utilization - The new strategy presupposes the following uses: agricultural, cattle, forestry and agro-industrial.

- (iii) In Traditional and new technologies - Involves the selection of effective technologies and dropping the others.
- (iv) In Sociology on a Selective basis - The selected example of socio-economic needs is useful on the addition of new watersheds.

II. Training

1. In economic - financial analysis at watersheds farms level, aimed at solving or alleviating problems brought up by the 1986 evaluation.
2. In operations and maintenance procedures. MARENA's scope of work is broadened with new strategy and thus, it will have agricultural producers on irrigation basis. This will require that the technicians taking care of this new clientele should know the operations and maintenance procedures at all project level "and at "farm level".
3. In agricultural economics - Useful, mainly, to speed-up the production agricultural credit, part of the Incentives Package.
4. In agricultural equipment and machinery. With the purpose of fostering the acquisition of equipment and machinery by private contractors, existing or potential; and to speed-up Agricultural Credit.
5. In the agricultural sector activities conducted under Secano, emphasizing forestry and range management.

III. Equipment

IV. Personnel: Technical, administrative, paratechnical

V. Financial Assistance

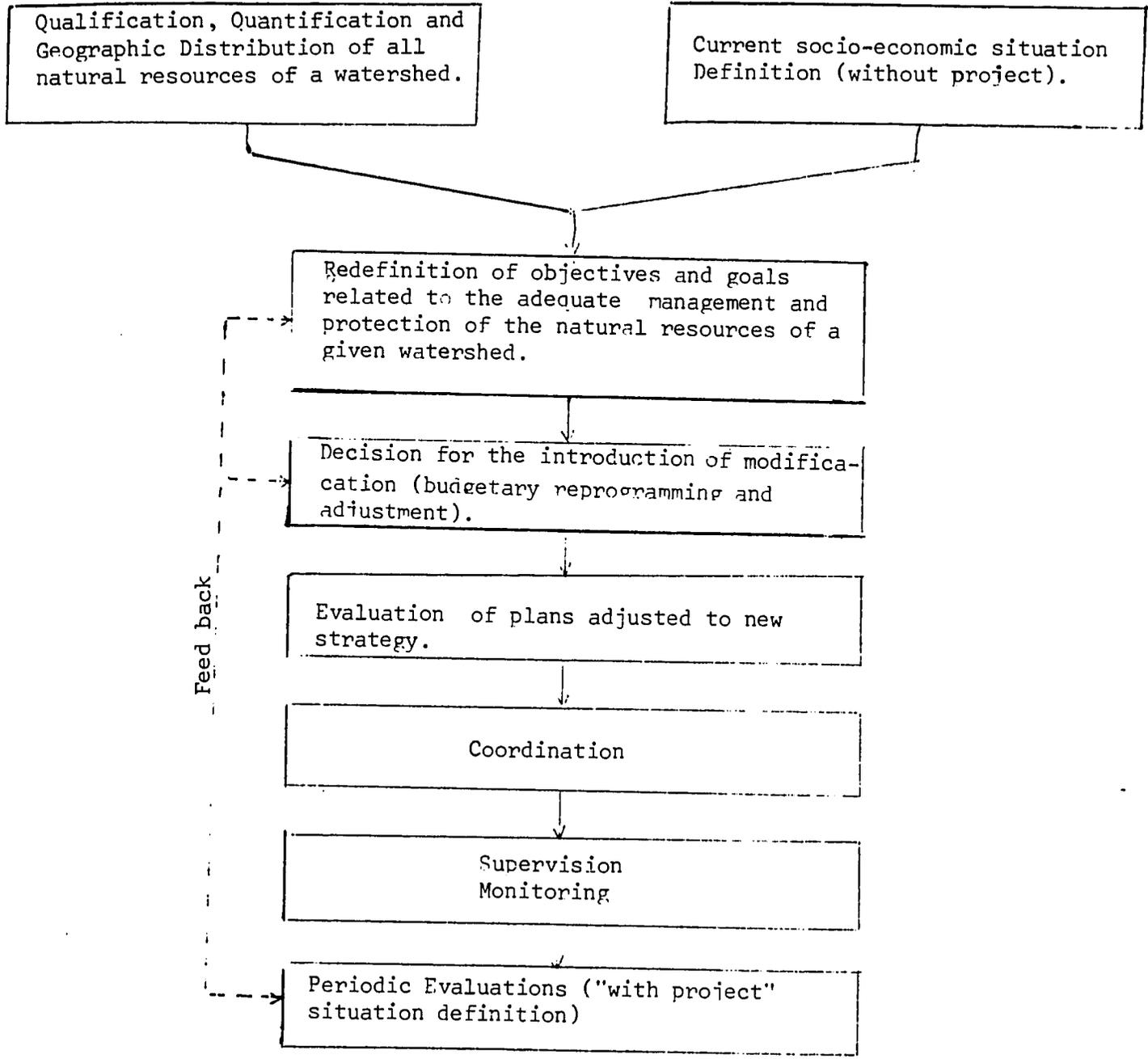
IMPLEMENTATION SCHEDULE: NEW WATERSHEDS

TASKS	- - - - - MONTHS - - - - -					
	1	2	3	4	5	6
1. Revision and analysis of available information	→					
2. Watershed prioritization exercise	→	→				
3. Establishment of the Watershed Development Committee (CDC)						
a- Promotion campaign to establish the CDC	→					
b- Election of CDC		→				
c- Installation of the CDC			→			
d- Establishment of CDC in Office			→			
4. Establishment of the Watershed Management Office (OMC)						
a- Appointment of the OMC Director	→					
b- Appointment of the OMC personnel		→				
c- Establishment and Equip OMC			→			
d- Initiation of official activities by the OMC			→			
5. Integration of the Private Sector				→		
6. Watershed Management Plan Development				→		
7. Distribution of the Draft of the Plan					→	
8. Analysis and discussions for the Plan approval					→	
9. Plan Readjustment						→
10. Plan Approval						→
11. Development of institutional liaison				→	→	→
12. Starting the Implementation Plan.						→

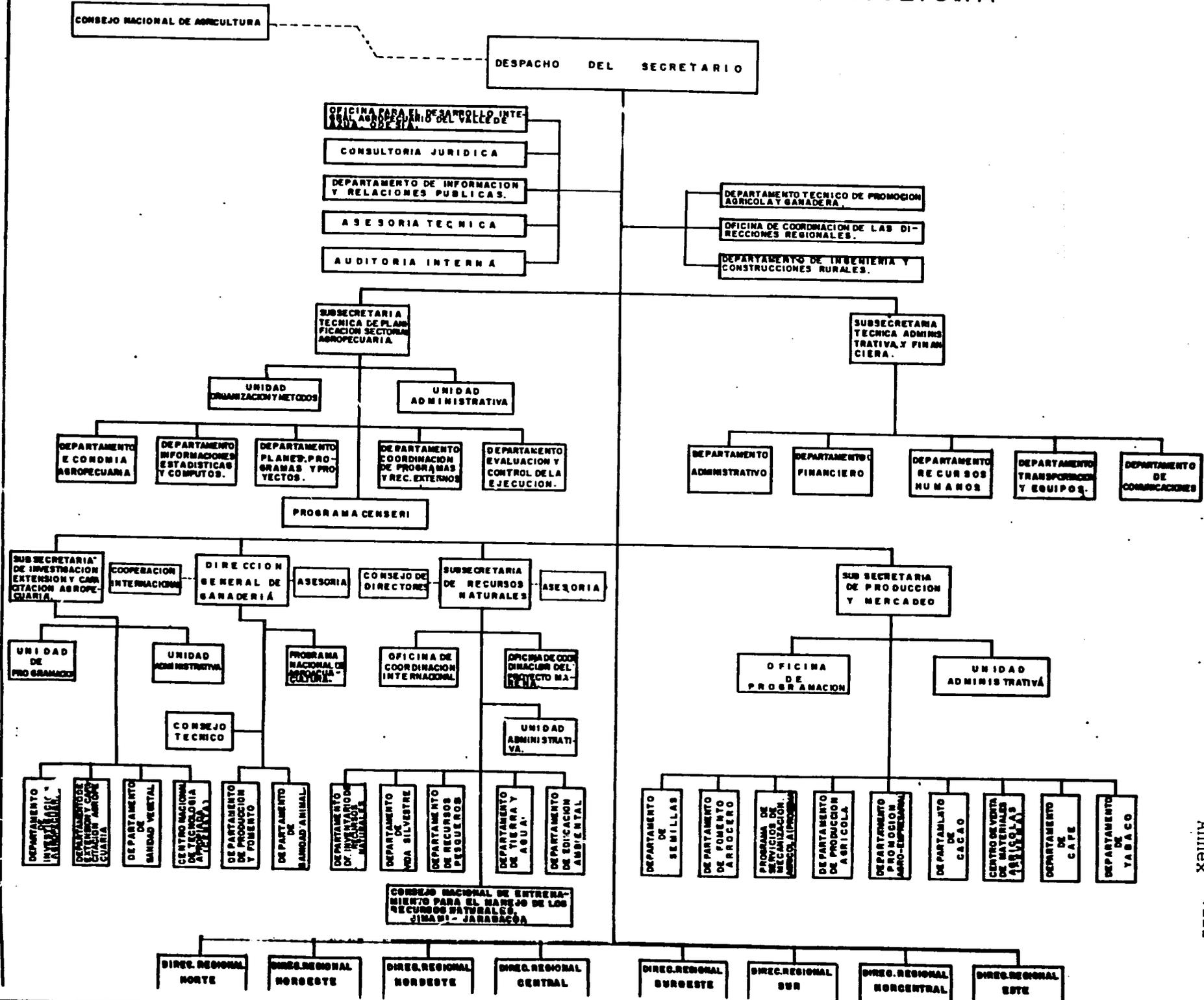
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May 1986

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NEW STRATEGY: FIELD ACTIVITIES



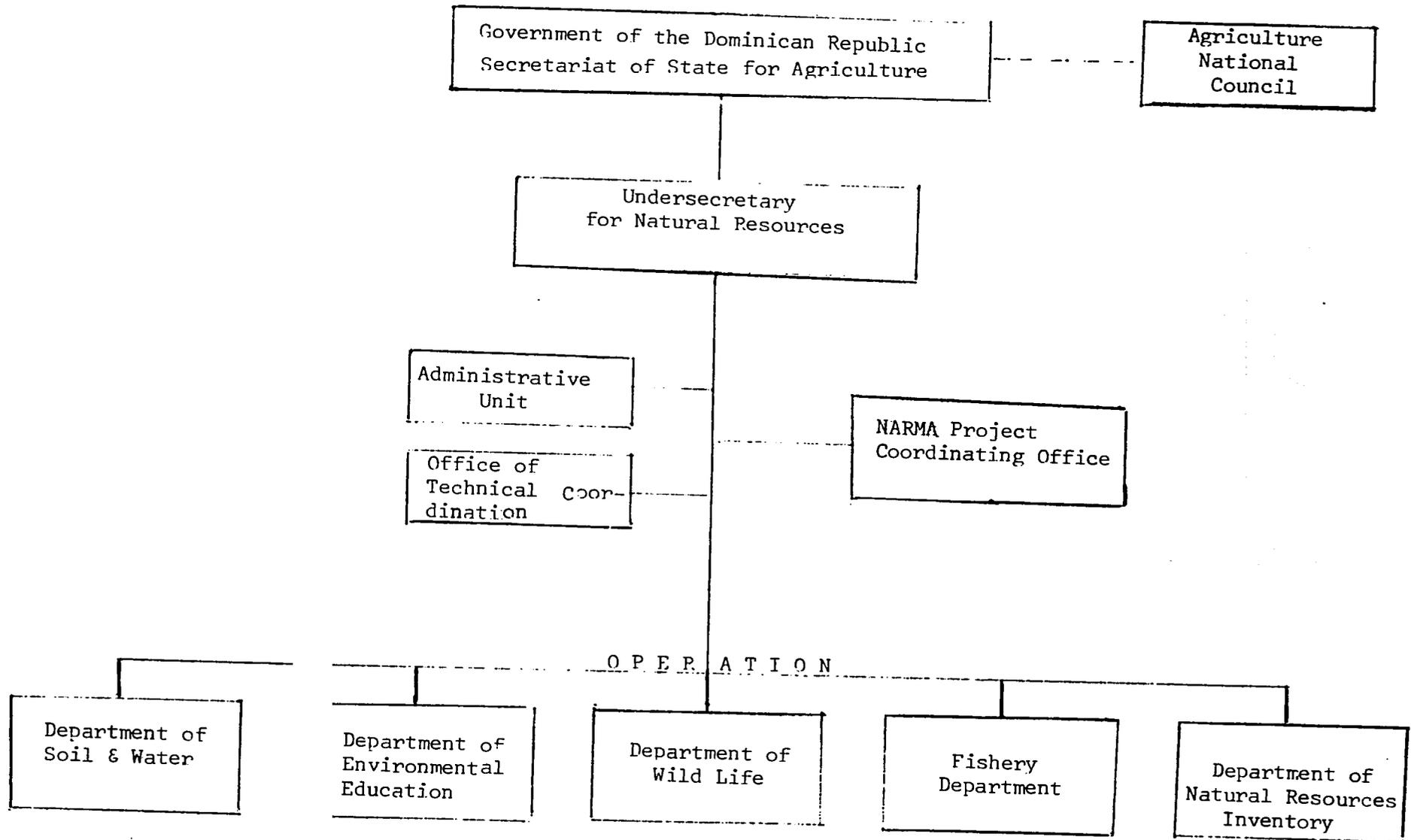
ORGANIGRAMA DE LA SECRETARIA DE ESTADO DE AGRICULTURA



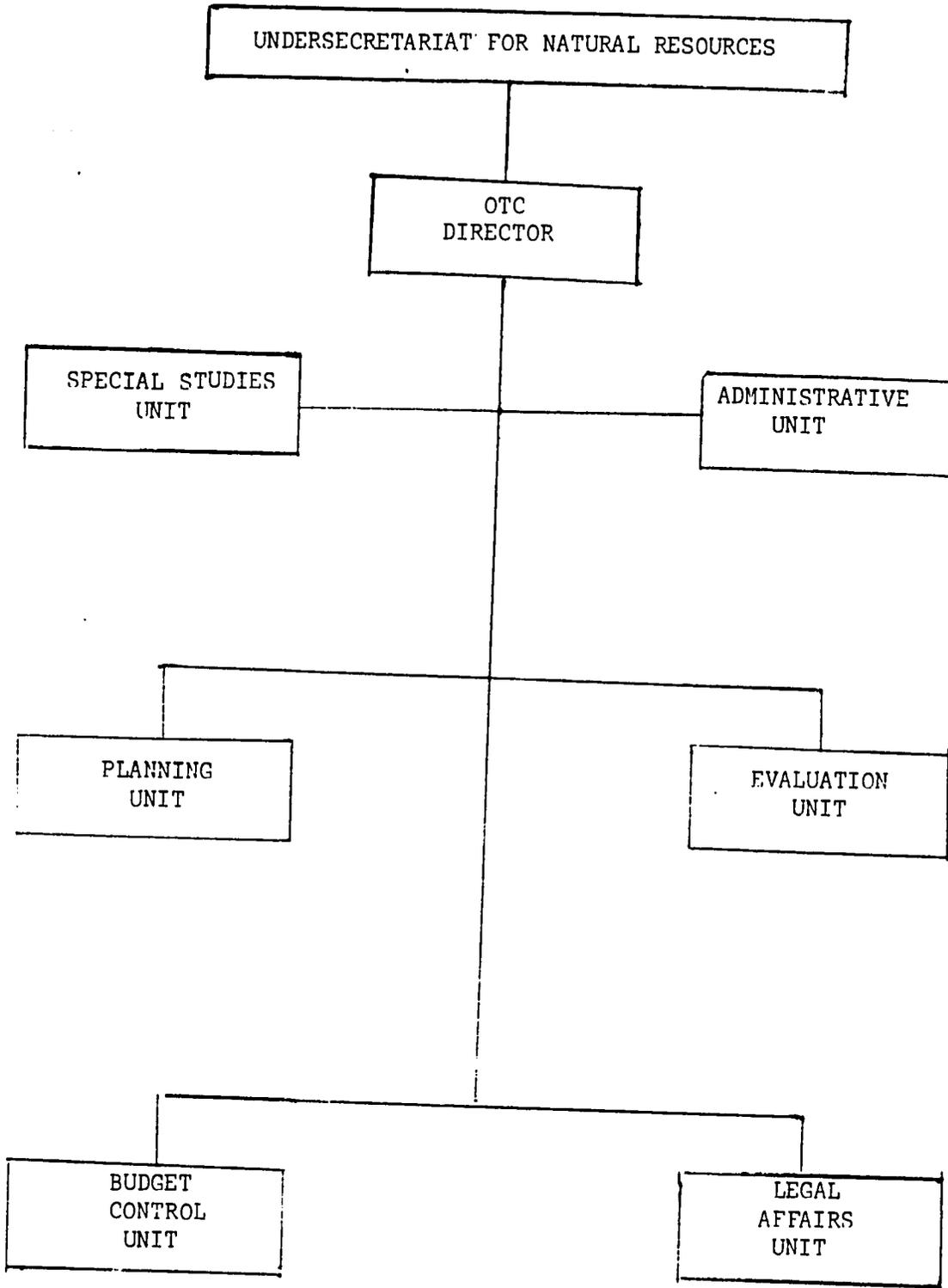
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UNDERSECRETARIAT FOR NATURAL RESOURCES

PRESENT ORGANIZATION CHART



5



Annex XI

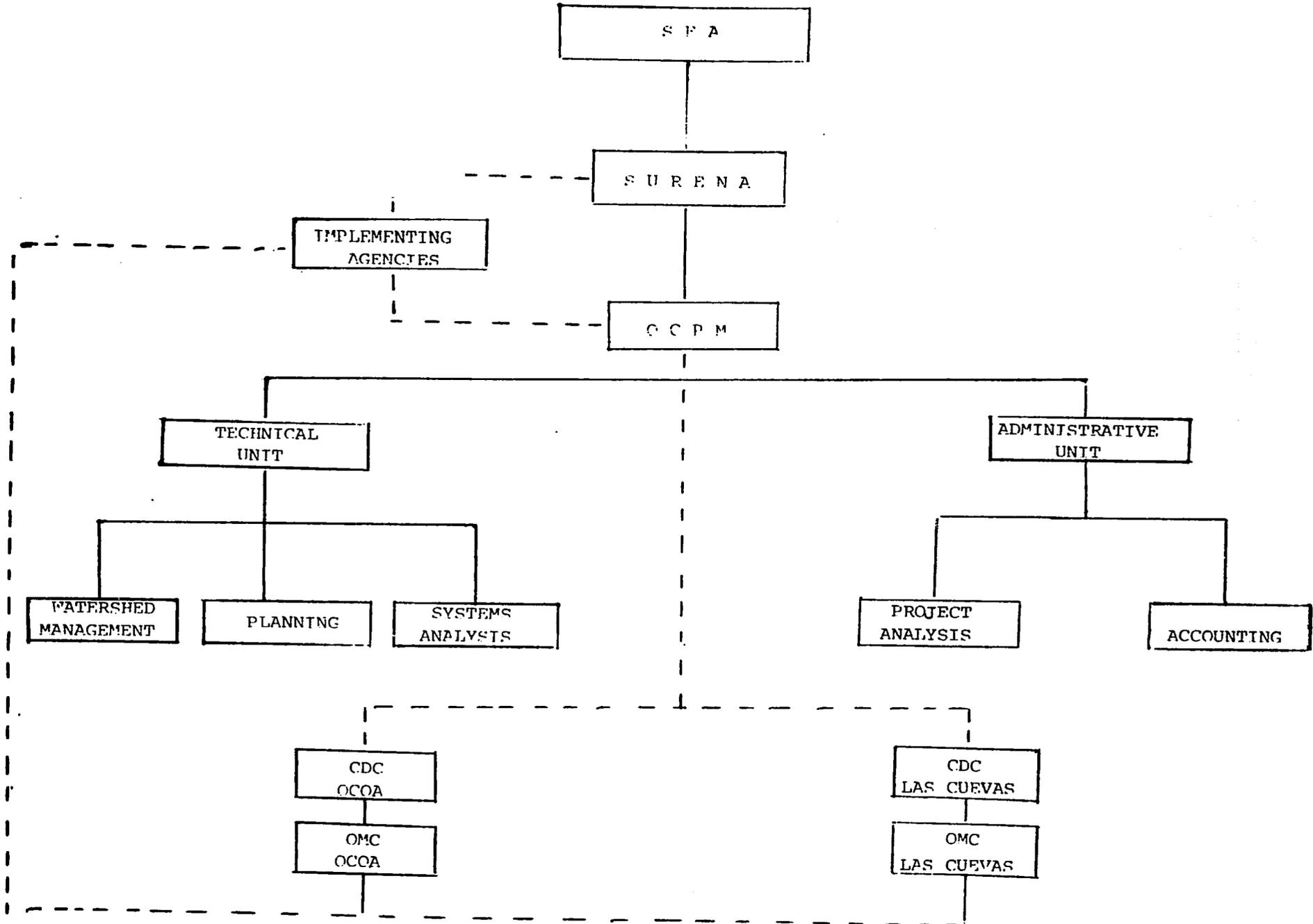
STAFFING PATTERN - OFFICE OF TECHNICAL COORDINATION SURENA

<u>NAME</u>	<u>UNIT</u>	<u>POSITION</u>	<u>SALARY SOURCE</u>
1. Eng. Agron. Hipolito Basil Suazo		Director	NARMA
2. Dr. Beatriz Ledesma de Rios.	Legal Affairs Unit	Unit Head	NARMA
3. Ms. Margarita Pena Jaquez	Legal Affairs Unit	Analysis and Legislation	NARMA
4. Eng. Agron. Fernando Valera Benitez	Planning Unit	Unit Head	NARMA
5. Mr. Bienvenido del Villar	Planning Unit	Statistician	NARMA
6. Eng. Agron. Apolinar Suero Decena	Planning Unit	In charge of Project formulation	NARMA
7. Ms. Ana Ida Aquino	Evaluation Unit	Unit head	FUNDS 100
8. Eng. Agron. Lus Garrido Jansen	Evaluation Unit	Agro-ecosystem Evaluation	NARMA
9. Mr. Aridio Roque D.	Budgetary Acctg. Unit	Unit Head	FUNDS 100
10. Mr. Kirsis B. Peguero A.	Budgetary Acctg. Unit	In charge of Budgeting	FUNDS 100
11. Mr. Fernando F. Ledesma	Budgetary Acctg. Unit	Programmer	FUNDS 100
12. Eng. Agron. Jorge Nesrala Murani	Special Studies Unit	Unit Head	FUNDS 100
13. Mr. Eduardo Cordero Recio	Adm. Unit	Unit Head	FUNDS 100
14. Ms. Alsacia Gutierrez Severino	Adm. Unit	Secretary	NARMA
15. Ms. Argelia Cepeda	Adm. Unit	Secretary	NARMA

16. Ms. Sublema Ventura M.	Adm. Unit	Secretary PIDAGRO <u>1/</u>
17. Mr. Emilio Luciano	Adm. Unit	Duplicating FUNDS Machine Operator 100
18. Ms. Secundina Castillo	Adm. Unit	Secretary FUNDS 100
19. Mr. Jose Perez	Adm. Unit	Duplicating FUNDS Machine Operator 100
20. Ms. Felicia Altagracia Cabrera	Adm. Unit	Secretary FUNDS 100
21. Ms. Daisy Duran de Franco	Adm. Unit	Secretary FUNDS 100
22. Ms. Ana Maria Arnaud	Adm. Unit	Secretary FUNDS 100

1/ PIDAGRO - Integrated Project for Agriculture and Livestock
Development

MARENA PROJECT
PRESENT ORGANIZATION CHART



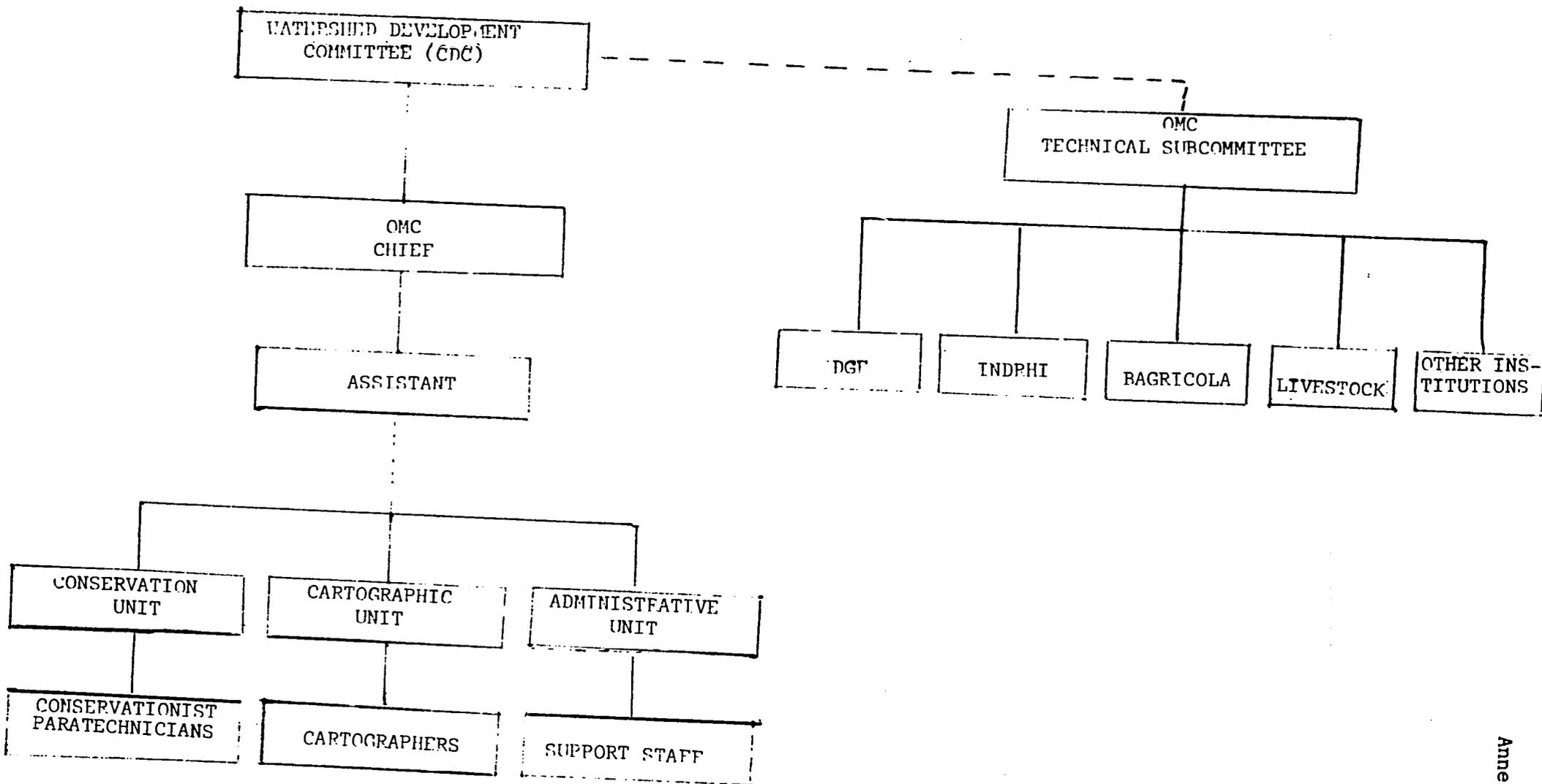
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STAFFING PATTERN - MARENA PROJECT COORDINATION OFFICE

<u>NAME</u>	<u>UNIT</u>	<u>POSITION</u>	<u>SALARY SOURCE</u>
1. Eng. Agron. Maximo Aquino Mendez		Director	NARMA
2. Eng. Agron. Jose Abel Hernandez	Direction		NARMA
3. Lic. Zamira Hache de Camilo	Technical Unit	Adm. Evaluation and Budgetary Control Unit Head	NARMA
4. Alma Clara Justo Kunhardt	Technical Unit	Assistant to the Unit Control	NARMA
5. Eng. David Mendez Emilien	Technical Unit	In charge of the Data Processing Operators	NARMA
6. Esther Cornielle Olivero	Technical Unit	Assistant to the DP Technicians	NARMA
7. Lic. Carmen Gil Guerrero	Technical Unit	In charge of training and translation	NARMA
8. Eng. Agron. Joaquin Azar	Technical Unit	Extension tasks	NARMA
9. Lic. Gerardo Quintin	Adm. Unit	Admin. Assist	FUNDS 100
10. Maritza Cordero	Adm. Unit	Secretary	NARMA
11. Ayerin Marion-Landais	Adm. Unit	Secretary	NARMA
12. Mayra Santos	Adm. Unit	Secretary	FUNDS 100
13. Agustina Martinez	Adm. Unit	Secretary	FUNDS 100
14. Rosario Visioso A.	Adm. Unit	Assist. Admin. Head	NARMA
15. Arturo Freitas	Adm. Unit	Chauffer	NARMA
16. Angela Cruz	Adm. Unit	Janitor	NARMA

17. Angela Valdez Ramos	Adm. Unit	Secretary	FUNDS 100
18. Miguela Lugo	Adm. Unit	Messenger	FUNDS 100
19. Miguela Suero	Adm. Unit	Messenger	FUNDS 100
20. Jose A. Rodriguez	Adm. Unit	Messenger	NARMA

PRESENT ORGANIZATION CHART
WATERSHED MANAGEMENT OFFICE (OMC)



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REPUBLICA DOMINICANA
 SUBSECRETARIA DE RECURSOS NATURALES
 PROYECTO MANEJO DE LOS RECURSOS NATURALES
 ** M A R E N A **
 (LEAID-63RD)

Annex XV

Santo Domingo, D. N.
 Marzo 25, 1966

AL : ENCARGADO DE LA OFICINA DE SUELOS Y AGUAS, OCSA
 ASUNTO : REMISION DE CHEQUES.

- 1.- POR LA PRESENTE SE LE REMITE LOS CHEQUES ESPECIFICADOS A CONTINUACION, PARA QUE SEAN ENTREGADOS POR UD. A LOS INTERESADOS PERSONALMENTE, HACIENDOLES FIRMAR EN EL ESPACIO CORRESPONDIENTE, IDENTIFICANDOSE CON EL NUMERO DE CEDULA Y SERIE. UD. DEBERA FIRMAR ENCIMA DE LA LINEA QUE DICE: JEFE DE OFICINA.
- 2.- SIRVASE DEVOLVER ESTA RELACION ACUSANDO RECIBO Y A LA MAYOR BREVEZAD.

CHEQUE #	TARJETA	NOMBRE DEL INTERESADO	COD:60	VALOR RD\$	CEDULA #	FIRMA
12439	34-00	MARCISO ALMONTE REYES	2013-005		17733-34	[Signature]
12540	132-00	DANIEL DE LOS S. SOSA	2015-003			[Signature]
12542	134-00	HERNANDO HERNANDEZ	2015-005		12517-22	[Signature]
12544	136-00	WILLIAM NORBERTO VARGAS	2015-007		73055-47	[Signature]
12548	140-00	JOSE OSANDO PEREZ	2015-011		30008-45	[Signature]
12549	141-00	ANTONIO MINIER FERNANDEZ	2015-012		9402-33	[Signature]
12550	142-00	ISIDRO CASTILLO V.	2015-013		23348-23	[Signature]
12551	143-00	CESAR R. ABREU CASTILLO	2015-014		55475-47	[Signature]
12555	147-00	MANUEL EMILIO FIVAS SENA	2015-019		115075-31	[Signature]
12558	150-00	JOSE TORIBIO ROSLES	2015-021		31005-17	[Signature]
12560	151-00	UBENCIO RAMIREZ CASRERA	2015-023		52050-02	[Signature]
12563	155-00	RONICO J. GOMEZ	2015-026		14707-22	[Signature]
12564	156-00	JOSELIN CUEVAS NOVA	2015-027		1000-10	[Signature]
12565	157-00	OSVALDO VARGAS PERALTA	2015-028			[Signature]
12575	169-00	FAUSTO ESCARRAMAN <i>ENC. Hospital de Curacao</i>	2015-029		16562-02	[Signature]
12577	170-00	DOMINGO LAVERGE	2015-041		1000-27	[Signature]
12592	195-00	MURYS GONZALEZ DE C.	2015-056		1000-15	[Signature]
12595	197-00	JUAN RAMIRO ARIAS	2015-058		17050-13	[Signature]
12597	190-00	ENRIQUE CALDERON ARIAS	2015-061		7245-13	[Signature]
12598	191-00	JOSE TEJEDA RAMIREZ	2015-062		12075-12	[Signature]

RECIBIDO CONFORME:

[Signature]
 JOSE DOMITILA
 JEFE DE OFICINA

ENCARG. CONTABILIDAD

CONTINUACION REMISION DE CHECKES AL ENCARGADO OFICINA SUELOS Y AGUAS

	20-00	DARIO RODRIGUEZ	2015-020
12336	21-00	FREDDY RIVERAS	2016-021
12337	22-00	LUIS E. BAEZ	2016-022
12338	23-00	FRANCISCO ENCARNACION	2016-023
12339	24-00	FRANCISCO BAEZ	2016-024
12340	25-00	LEONCIO BAUTISTA	2016-025
12341	26-00	JULIO C. MINYETTI	2016-026
12342	27-00	MODESTO ENCARNACION	2016-027
12343			

2102-13	<i>Dario Rodriguez</i>
20052-13	<i>Freddy Riveras</i>
1507-15	<i>Luis Emilio Baez</i>
15121-13	<i>Francisco Encarnacion</i>
15176-15	<i>Francisco Baez</i>
17520-13	<i>Leoncio Bautista</i>
18394-15	<i>Julio C. Minyetti</i>
13196-13	<i>Modesto Encarnacion</i>

RECIBIDO CONFORME: *[Signature]*
 Carlos I. Bonilla
 JEFE DE OFICINA
 11/27/13

ENCARGADO CONTABILIDAD

REPUBLICA DOMINICANA
 SUBSECRETARIA DE RECURSOS NATURALES
 PROYECTO MANEJO DE LOS RECURSOS NATURALES
 ** M A R E N A **
 (USAID-6090)

Santo Domingo, D. N.
 Marzo 25, 1966

1 DIRECTOR OFICINA MANEJO CUENCA, OCOA

ASUNTO : REMISION DE CHEQUES.

- 1.- POR LA PRESENTE SE LE REMITE LOS CHEQUES ESPECIFICADOS A CONTINUACION, PARA QUE SEAN ENTREGADOS POR UD. A LOS INTERESADOS PERSONALMENTE, HACIENDOLES FIRMAR EN EL ESPACIO CORRESPONDIENTE, IDENTIFICANDOSE CON EL NUMERO DE CEDULA Y SERIE. UD. DEBERA FIRMAR ENCIMA DE LA LINEA QUE DICE: JEFE DE OFICINA.
- 2.- SIRVASE DEVOLVER ESTA RELACION ACUSANDO RECIBO Y A LA MAYOR BREVEDAD.

CHEQUE #	TARJETA	NOMBRE DEL INTERESADO	CODIGO	VALOR RD\$	CEDULA #	FIRMA
12421	17-88	CARLOS JOSE BONILLA <i>Delusien cmc</i>	1812-881		12888-34	<i>[Signature]</i>
12423	19-88	VINICIO ANT. SOTO	1812-883		14087-13	<i>[Signature]</i>
12424	28-88	MARINO DEL ROSARIO SANCHEZ <i>ENC. UNIDAD ADM.</i>	1812-884		11382-13	<i>[Signature]</i>
12425	21-88	RAFAEL H. FELIZ PINA	1812-825		19574-81	<i>[Signature]</i>
12426	21-81	MARIA RAUTISTA PUJOLS	1812-805		11365-13 11246-13	<i>[Signature]</i>
12427	22-88	ALTAGRACIA M. PIMENTEL T.	1812-887		11445-13	
12428	23-88	ROSABIA PIMENTEL LUCIA	1812-888		1812-13	<i>[Signature]</i>
12429	24-88	MARIA DEL CARMEN PINEDA	1812-889		17351	<i>[Signature]</i>
12430	25-88	RHADAMES ROA	1812-818		17615-13	<i>[Signature]</i>
12431	25-88	BERNARDO A. MORETA ROSSI	1812-811		19742-13	<i>[Signature]</i>
12432	27-88	LORENZA CASTILLO	1812-812		11939-13	<i>[Signature]</i>
12433	28-88	RAFAEL VIANEY GUERRERO	1812-813		12373-13	<i>[Signature]</i>
12434	29-88	MARCO ANTONIO MATEO	1812-814		544-13	<i>[Signature]</i>
12471	65-88	RAMON PUJOLS	1814-815		21423-13	<i>[Signature]</i>
12543	135-88	TEODORO PEJIA	2815-885		17455-13	<i>[Signature]</i>
12554	146-88	MARIANO SANCHEZ SANCHEZ <i>ENC. MUD. GUANAJAY TO. CAJAHUAYAN</i>	2815-817		21582-49	<i>[Signature]</i>
12573	165-88	MARIO JULIO RODRIGUEZ	2815-816		11939-81	<i>[Signature]</i>
12580	173-88	RAFAEL SANTANA CASTILLO	2815-843		16944-13	<i>[Signature]</i>
12591	184-88	MARIA I. PEDRANO PIMENTEL	2815-854		17426-13	<i>[Signature]</i>
12608	288-88	TOMAS MONTAS <i>ENC. UN. EST. CAJAHUAYAN</i>	2826-832		34943-82	<i>[Signature]</i>

Luis Ramón Mantecón
 OFIC. ED. AMBIENTAL

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CONTINUACION REMISION OFICINA MAYENO DE CUENCA, OCOA

12623	281-88	MAYRA B. ALFARO ARRIETA	2826-883
12609	283-88	JUAN DE DIOS RAMOS	2826-885
12610	284-88	MIGUEL MATEO DIAZ	2826-886
12611	285-88	JOSE CARRERA CIPRIAN	2826-887
12612	286-88	MARIA DE LOS A. CAMILO	2826-888

375757-81	<i>Mayra Alfaro de Arrieta</i>
35597-37	<i>Juan de Dios Ramos</i>
23715-13	<i>Miguel Mateo Diaz</i>
19234-13	<i>Jose Carrera Ciprian</i>
4262-56	<i>Maria de los Angeles Camilo</i>

RECIBIDO

11/30/88
CARLOS JOSE BONDILLA
 JEFE DE OFICINA

ENCARGADO CONTABILIDAD

SECRETARIA DE ESTADO DE AGRICULTURA
 SUBSECRETARIA DE RECURSOS NATURALES
 PROYECTO MARENA
 OFICINA MANEJO DE CUENCAS (OMC)

RELACION DE PARATECNICOS QUE LABORAN EL PROYECTO MARENA CUENCA OCOA

NOMBRE Y APELLIDO	CEDULA No.	CARGO ACTUAL	SUELDO ACTUAL -RD\$-	SUELDO SUGE- RIDO - RD\$ -	FONDO POR EL CUAL COBRA
Cesáreo Mejía	24327-13	Paratécnico			Proyecto MARENA
Eleodoro Melo	182489-1	"			" "
Angel Díaz	11842- 3	"			" "
Dario Rodríguez	8188 -13	"			" "
Freddy Rivera	20852-13	"			" "
Luis Emilio Báez	1587 -13	"			" "
Francisco Encarnación	15151-13	"			" "
Francisco Báez	15176-15	"			" "
Leoncio Bautista	17528-13	"			" "
Julio César Minyetty	18394-13	"			" "
Modesto Encarnación	13196-13	"			" "
Rafael Angel Presinal	21984-13	"			" "
José Dolores Mordán	16743-10	"			" "
Francisco Custodio Minyetty	4232 -17	"			" "
Tomás Tejeda	14162-17	"			" "
Antonio Mordán Sánchez	7809 -13	"			" "
Rafael Custodio	24790-13	"			" "
Dario Presinal	7721 -13	"			" "
Juan María Pimentel	15947-13	"			" "

SECRETARIA DE ESTADO DE AGRICULTURA
 SUBSECRETARIA DE RECURSOS NATURALES
 PROYECTO MARENA
 OFICINA MANEJO DE CUENCAS (OMC)

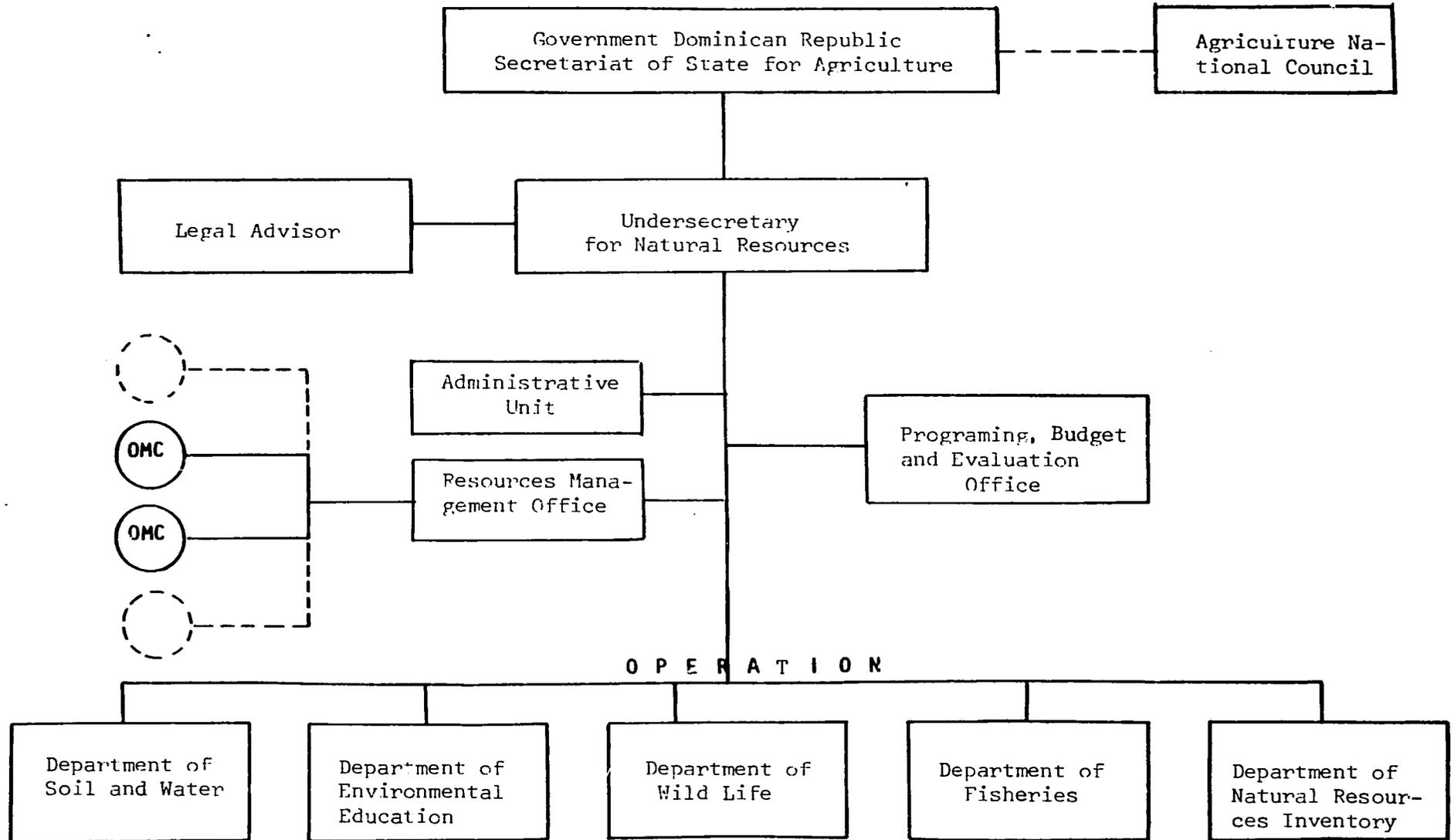
RELACION DEL PERSONAL ADMINISTRATIVO QUE LABORA EN EL PROYECTO MARENA CUENCA RIO OCOA

NOMBRE Y APELLIDO	CEDULA No.	CARGO ACTUAL	SUELDO ACTUAL - RD\$ -	SUELDO SUGE- RIDO - RD\$ -	FONDO POR EL CUAL COBRA
Marino del Rosario Sánchez	11308 - 13	Encargado Administrativo			Proyecto MARENA
Máximo L. Dotel Montilla	137408 - 1	Enc. Admn. Paq. Inc. Subc.			F E D A
Vinicio Antonio Soto M.	14087 - 13	Ayudante de Contabilidad			Proyecto MARENA
Rafael Félix Piña	195944 - 1	Enc. de Contabilidad			" "
Altagracia Milagros Pimentel	11445 - 13	Secretaria			" "
María del Carmen Pineda	17351 - 13	"			" "
Rosanna Lucía Pimentel T.	18181 - 13	"			" "
Nurys González de Custodio	16086 - 13	"			" "
María Yvelisse Medrano P.	17466 - 13	"			" "
Rachamés Altagracia Roa P.	17615 - 13	Mecánico			" "
Orlando Pérez Minyetty	22557 - 13	Ayudante Técnico			" "
Bernardo Alberto Moreta Rossi	19242 - 13	Operador de Radio y Fotoc.			" "
Enrique E. Calderón Arias	7265 - 13	Mensajero			" "
Lorenza Castillo	11938 - 13	Conserje			" "

mdcp...

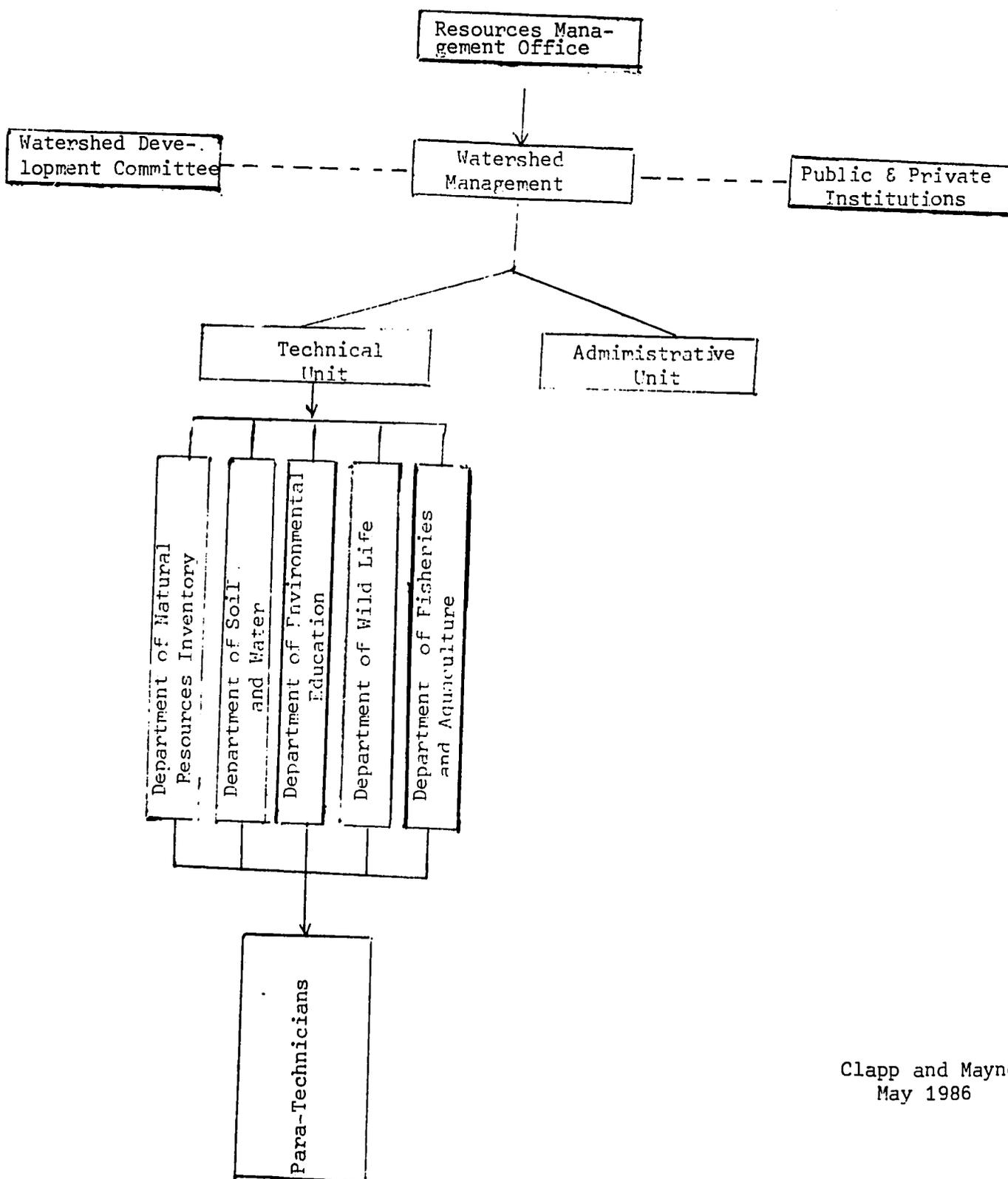
UNDERSECRETARIAT FOR NATURAL RESOURCES

PROPOSED ORGANIZATIONAL STRUCTURE



Annex XVI

SUBSECRETARIAT FOR NATURAL RESOURCES
WATERSHED MANAGEMENT OFFICE
(OMC)
PROPOSED ORGANIZATIONAL STRUCTURE



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ADDITIONAL TRAININGS REQUIRED FOR SURENA PERSONNEL

<u>Type of Training</u>	<u>Related MARENA Activities</u>	<u>Participants</u>	<u>Estimated Duration</u>
Economic and Financial Analysis <u>1/</u>	Agricultural Conservation Watersheds Protection Plans Development	OMR Professionals <u>3/</u> OPPE and Inventory Dept. and OMC <u>2/</u>	Three months
Forestry	Forest Development Agricultural Reservation Watersheds Protection	OMC Professionals Para-Technicians	One month
Ranges/Livestock	Agricultural Preservation Watersheds Protection	OMC Professionals Para-Technicians	One month
Observation Trips and Watersheds Study	Watersheds Protection	OMR and OMC Professionals	2 weeks
Planning	MARENA Management Plans Development	OPPE Professionals <u>4/</u>	6 months <u>5/</u> One month <u>6/</u>
Observation Trips and Studies of the Comprehensive Natural Resources Information Systems	Plans Development MARENA Management	OPPE/EDP Personnel	2 weeks
Users Information Systems	MARENA Management Plans Development	SURENA Executives	1 week

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- 1/ One or two participants of the Economic Development Institute course could receive a World Bank scholarship.
- 2/ OMC - Watershed Management Office
- 3/ OMR - Resources Management Office
- 4/ OPPE - Programming, Budget and Evaluation Office
- 5/ 6 months - For personnel without higher education in planning.
- 6/ 1 month - To refresh knowledge of personnel with higher education in planning.

TECHNICAL ASSISTANCE NEEDS

Technical assistance related to MARENA Project activities.

1. Multidisciplinary Professional Task Force to assist SURENA until termination of Project.
2. Studies and assistance at sectoral level:
 - a) Institutional organization and coordination
 - b) Production Credit
 - c) Applied Research
3. Studies and assistance at programming level
 - a) Training and direct assistance to the Programming, Budget and Evaluation Office.
 - b) Design of Comprehensive Information System on Natural Resources
 - c) Review of the Project's Accounting System
 - d) Reorganization of all SURENA departments and Administrative Units.
 - e) Position classification and functions of SURENA personnel
4. Studies and assistance at watersheds level related to Renewable Resources.



TECHNICAL AND ADMINISTRATIVE PERSONNEL PARTICIPATING IN MEETING AND INTERVIEWS WITH CLAPP AND MAYNE, INC. CONSULTANTS.

Ministry of Agriculture

- | | | |
|-----|--------------------------------|---|
| 1. | Dr. Eng. Juan Antonio Gonzalez | Undersecretary for Natural Resources (SURENA) |
| 2. | Eng. Agron. Hipolito Bazil | Director (OCT) |
| 3. | Dr. Beatriz Ledesma de Rios | Legal Advisor - OCT |
| 4. | Eng. Maximo Aquino Mendez | Director - OCPM |
| 5. | Ms. Zamira Hache | Head of Administration, Evaluation and Budget Control |
| 6. | Ms. Carmen Gil | Head of Training and Translations |
| 7. | Mr. Aridio Roque | OTC |
| 8. | Eng. Agron. Carlos Bonilla | Head (OMC) OCOA |
| 9. | Mr. Marino de Rosario | Administration Head OMC-OCOA |
| 10. | Eng. Agron. Fernando Campos | Director Dept. of Soils and Water |
| 11. | Eng. Agron. Jose Idelfonso | Director Dept. de Environmental Education |
| 12. | Eng. Agron. Rene Ledsema | Director Dept. of Natural Resources Inventory |
| 13. | Eng. Juan Mancebo | Assist. Dtor. of Natural Resources Inventory |
| 14. | Eng. Agron. Orlando Amargoz | Director of Wildlife |
| 15. | Mr. Teofilo Israel Anderson | Director Dept. of Fisheries Resources |
| 16. | Mr. Gilberto Guillen | Assist. Dtor. Dept. of Fisheries Resources |
| 17. | Mr. Felicibe Keredia | Fisheries Dept. |

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|---------------------------------------|---|
| 18. Eng. Agron. Leopoldo Rafael Roman | Director of Planning Office (SUTEPLAN) |
| 19. Eng. Agron. Luis Socias | Director Dept. of External Resources |
| 20. Mr. Gerardo Quintin | Head of Administrative Unit (OCAM) OCPM |
| 21. Ms. Lourdes Martinez | Head of Accounting Unit (MARENA) |
| 22. Ms. Maritza Fontana | Head of Accounting Adm. Unit (SURENA) |
| 23. Mr. Casiano Massy | Head of Administrative Unit (SURENA) |
| 24. Mr. Leoncio Jimenez | Director Accounting Adm. Undersecretariat |

Other Government Institutions

- | | |
|---------------------------|--|
| 25. Lic. Renato D. Rimoli | Director of National Museum of Natural History |
| 26. Dr. Abelardo Jimenez | Assistant Director of National Museum of Natural History |
| 27. Dr. Idelisa Bonelli | Director Marine Biology Research (USAD) |
| 28. Dr. Vencia Alvarez | Biologist (UASD) |

Agency for International

- | | |
|----------------------------|---|
| 29. Eng. Marion H. Ford | ARDO Chief |
| 30. Eng. Delbert McCluskey | NARMA Project Officer |
| 31. Dr. Gary Kempf | Resident Advisor |
| 32. Mr. Pirie M. Gall | Capital Development Office AID/DR |
| 33. Mr. Fernando Gomez | Environmental Law Specialist MSU |
| 34. Dr. Daniel Bronstein | Environmental Law Specialist MSU |
| 35. Eng. Italo Russo | MSU Natural Resources Consultant and Clapp and Mayne Team Counterpart |

Private Sector and Farmers

- | | |
|------------------------------|--------------------------------------|
| 36. Mr. Dr. Cesar E. Lopez | Director of FLORESTA |
| 37. Mr. Dr. Pablo de la Mota | Pres-Treasurer - Financiera Olimpica |
| 38. Mr. Julian Aquino | Projects Chief - J.M. Cabral & Baez |
| 39. Dr. Jose A. Postigo | Promoter |
| 40. Dr. Bruce Anderson | Utah State University, U.S.A. |
| 41. Mr. Maximo Moreno | Farmer |
| 42. Mrs. Maria Ortiz | Farmer |