PD-AAG-469

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LA/DR 77-PRP-L-20

AGENCY FOR INTERNATIONAL DEVELOPMENT

# PROJECT REVIEW PAPER FACESHEET

1. TRANSACTION CODE: A (A = ADD, C = CHANGE, D = DELETE)

PRP

2. DOCUMENT CODE: 2

3. COUNTRY ENTITY: NICARAGUA

4. DOCUMENT REVISION NUMBER:

5. PROJECT NUMBER (7 digits): 524-0138

6. BUREAU OFFICE: A. SYMBOL: LA; B. CODE: 05

7. PROJECT TITLE (Maximum 40 characters): Rural Development Sector Loan II

8. PROPOSED NEXT DOCUMENT: A. 3 PP; B. DATE MM YY 05 78

9. ESTIMATED FY OF AUTHORIZATION OBLIGATION: A. INITIAL FY 78; B. FINAL FY 78

10. ESTIMATED COSTS ($000 OR EQUIVALENT $1 = )

| A. FUNDING SOURCE | FIRST FY B. F.X. | FIRST FY C. L.C. | FIRST FY D. TOTAL | LIFE OF PROJECT E. F.X. | LIFE OF PROJECT F. L.C. | LIFE OF PROJECT G. TOTAL |
|---|---|---|---|---|---|---|
| AID APPROPRIATED TOTAL | | | | | | |
| (GRANT) | | | | | | |
| (LOAN) | | 600* | 600 | 2,375 | 8,625 | 11,000 |
| OTHER U.S. 1 | | | | | | |
| OTHER U.S. 2 | | | | | | |
| HOST COUNTRY | | 1,600 | 1,600 | 330 | 12,490 | 12,820 |
| OTHER DONORS | | | | | | |
| TOTALS | | 2,200 | 2,200 | 2,705 | 21,115 | 23,820 |

11. PROPOSED BUDGET AID APPROPRIATED FUNDS ($000)

| A. APPROPRIATION | B. PRIMARY PURPOSE CODE | PRIMARY TECH. CODE C. GRANT | PRIMARY TECH. CODE D. LOAN | E. FIRST FY 78 F. GRANT | E. FIRST FY 78 G. LOAN | LIFE OF PROJECT H. GRANT | LIFE OF PROJECT I. LOAN |
|---|---|---|---|---|---|---|---|
| (1) FW | 200 | — | 250 | | 11,000 | | 11,000 |
| (2) | | | | | | | |
| (3) | | | | | | | |
| (4) | | | | | | | |
| TOTAL | | | | | | | |

12. PROJECT PURPOSE (Maximum 480 characters) ☐ "X" IF DIFFERENT FROM PID

1) Assisting in perfecting INVIERNO's organization and delivery systems to efficiently respond to the needs of an increasingly expanding target group over a sustained period of time.

13. DATA CHANGE INDICATOR. WERE CHANGES MADE IN PID FACESHEET DATA, BLOCKS 12, 13, 14, OR 15? IF YES, ATTACH CHANGED PID FACE SHEET.

2 (1 = NO, 2 = YES)

14. PLANNING RESOURCE REQUIREMENTS (Staff/Funds)

41 person weeks begining September 1977 for various consulting services.
Estimated budget 51.000

15. ORIGINATING OFFICE CLEARANCE

SIGNATURE

TITLE: Director. USAID Nicaragua

DATE SIGNED: MM 10 DD 05 YY 76

16. DATE DOCUMENT RECEIVED IN AID/W, OR FOR AID/W DOCUMENTS, DATE OF DISTRIBUTION

MM 11 DD 18 YY 76

AID 1330-3 (3-76)

* potential

Ammendement # 1

AGENCY FOR INTERNATIONAL DEVELOPMENT

# PROJECT IDENTIFICATION DOCUMENT FACESHEET

TO BE COMPLETED BY ORIGINATING OFFICE

1. TRANSACTION CODE
A = ADD
C = CHANGE
D = DELETE

PID

2. DOCUMENT CODE 1

3. COUNTRY/ENTITY

4. DOCUMENT REVISION NUMBER

5. PROJECT NUMBER (7 DIGITS)

6. BUREAU/OFFICE
A. SYMBOL
B. CODE

7. PROJECT TITLE (MAXIMUM 40 CHARACTERS)

8. PROPOSED NEXT DOCUMENT
A. 2 = PRP
3 = PP
B. DATE MM YY

9. ESTIMATED FY OF AUTHORIZATION/OBLIGATION
a. INITIAL FY
b. FINAL FY

10. ESTIMATED COSTS
($000 OR EQUIVALENT, $1 = )

| FUNDING SOURCE | | LIFE OF PROJECT |
|---|---|---|
| A. AID APPROPRIATED | | |
| B. OTHER U.S. | 1. | |
| | 2. | |
| C. HOST COUNTRY | | |
| D. OTHER DONOR(S) | | |
| | TOTAL | |

11. PROPOSED BUDGET AID APPROPRIATED FUNDS ($000)

| A. APPROPRIATION | B. PRIMARY PURPOSE CODE | PRIMARY TECH. CODE | | E. FIRST FY ____ | | LIFE OF PROJECT | |
|---|---|---|---|---|---|---|---|
| | | C. GRANT | D. LOAN | F. GRANT | G. LOAN | H. GRANT | I. LOAN |
| (1) | | | | | | | |
| (2) | | | | | | | |
| (3) | | | | | | | |
| (4) | | | | | | | |
| | | | TOTAL | | | | |

12. SECONDARY TECHNICAL CODES (maximum six codes of three positions each)

| 030 | 060 | 070 | 110 | 130 | 230 |
|---|---|---|---|---|---|

13. SPECIAL CONCERNS CODES (MAXIMUM SIX CODES OF FOUR POSITIONS EACH)

| BR | BS | EQTY | INTR | TECH | COOP |
|---|---|---|---|---|---|

14. SECONDARY PURPOSE CODE

15. PROJECT GOAL (MAXIMUM 240 CHARACTERS)

16. PROJECT PURPOSE (MAXIMUM 480 CHARACTERS)

17. PLANNING RESOURCE REQUIREMENTS (staff/funds)

18. ORIGINATING OFFICE CLEARANCE

Signature

Title

Date Signed MM DD YY

19. DATE DOCUMENT RECEIVED IN AID/W, OR FOR AID/W DOCUMENTS, DATE OF DISTRIBUTION MM DD YY

AID 1330-2 (3-76)

PROJECT REVIEW PAPER
NICARAGUA-RURAL DEVELOPMENT SECTOR LOAN II

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## 1. PRIORITY AND RELEVANCE

The Government of Nicaragua's objective under the 1975-80 Rural Development Plan is "the improvement of the standard of living of the rural population:" i.e., "a greater access of the rural population to the stream of goods and services, together with a greater individual participation in the decisions affecting the improvement of said population". This overall goal was further defined by the GON and enunciated in six instrumental objectives; the first three in order of priority are:

1. "to pursue a distribution of income with a high social content, as an instrument to insure the access of the mass of the population to the stream of goods and services,

2. to expand the opportunities of productive employment, as the most adequate way by which an individual can improve his income and participate in the development of the economy, and

3. to promote the growth of agricultural output as a means to insure a greater availability of goods and services to the rural population and a greater growth of the economy in general."

To achieve these goals, the GON has launched a major integrated rural development effort which is comprised of numerous programs and projects. Some of these include: 1) the restructuring of the Ministry of Agriculture (MOA), 2) the creation of Institute for Campesino Welfare (INVIERNO), 3) the launching of a major rural health program, 4) the initiation of a comprehensive review of nutritional problems to be followed up with an integrated program in existing agencies, 5) an innovative attack on rural educational problems via both existing as well as new delivery infrastructure, 6) a program of advisory and capital assistance to rural municipios, 7) an expansion of rural electrification, 8) the creation of the Nicaraguan Institute for Agricultural Technology (INTA) in 1977 and 9) the creation of the Institute for Renewable Resources (IRENA) in 1978. All of these programs are of great importance in the overall integrated attack on the rural poverty of Nicaragua and as a result Nicaragua

has found excellent support from international donor agencies to assist the effort with the necessary technical, commodity and capital assistance. However, the program with the greatest overall potential for sustained socio/economic development of the rural poor is INVIERNO. Rather than an agency with a specific function orientation to serve the entire population such as other agencies within the agricultural sector (e.g., grain stabilization); INVIERNO has a specific population focus (the rural poor) and is charged with the responsibility to see that all required services are provided to its constituency.

Essentially a multi-faceted rural development bank created in June of 1975, INVIERNO is taking the lead in providing Nicaragua's rural poor the opportunities necessary to improve their standard of living. It does this by not only providing fully integrated banking and development services directly to rural families, organized groups and communities but also by coordinating with other GON ministries to assist them in providing rural communities with adequate infrastructure and services in health, education and transportation. (See figure 1 for schematic overview of INVIERNO Approach). Because INVIERNO represented an innovative and highly experimental approach to solving the problems facing the rural poor in Nicaragua, A.I.D. joined the GON in directly supporting INVIERNO with 12 million dollars of the 14 million dollar Rural Development Sector Loan I, A.I.D. Loan No. 524-T-031. More specifically, the INVIERNO loan portion, matched by over 18 million dollars of GON funds, was to be used to assist in the creation of INVIERNO and to provide resources to initiate its major programs in Regions V and II of the country. During the development of the initial loan, however, the AID Mission recognized that the full development of INVIERNO would be longer term process of at least six years beginning in CY 1976 (see Annex V-E, page 3 of the CAP on the Nicaragua Rural Development Sector Loan). Although little more than one year has passed since the initial loan was authorized, several dimensions of INVIERNO are becoming more clear and suggest that follow up assistance may be necessary for FY 1978. These dimensions are discussed in two general areas of consideration.

First, INVIERNO has far exceeded expectations in several areas. It was originally programmed that it would take INVIERNO at least one full year from the signing of 031 to become operational in the field. However, INVIERNO was operational in the field in less than six months and without a large infusion of technical assistance originally programmed as necessary. This was achieved essentially as a result of the GON allocating outstanding manpower to the INVIERNO

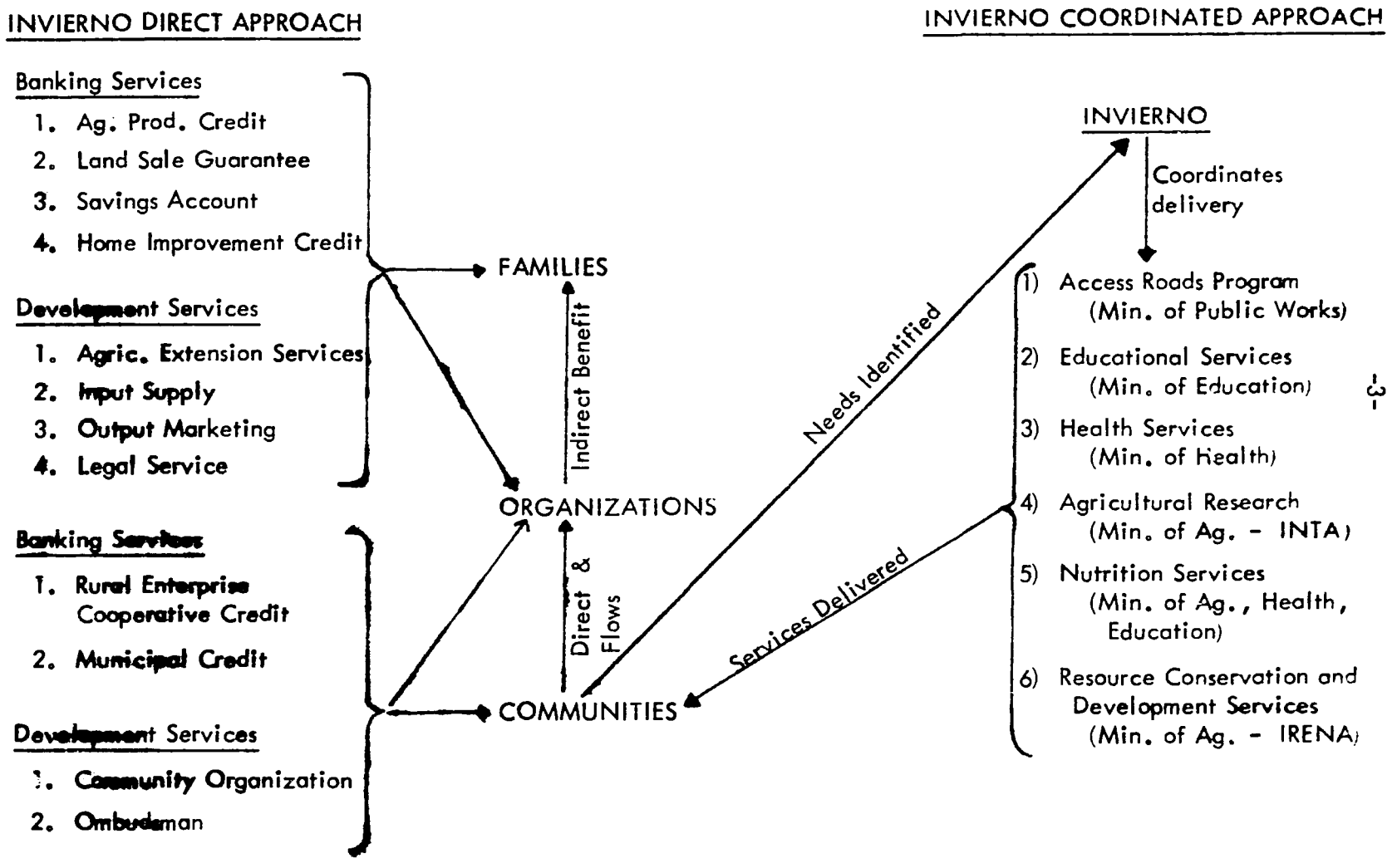


FIGURE 1. INVIERNO INTEGRATED DEVELOPMENT APPROACH

program. Also, during the first year, the field operation was concentrated on the agricultural credit program and it too has surpassed initial projections. While it was expected that 1,500 small farmers would participate in the first operational year, INVIERNO authorized agricultural credit to 4,850 clients, more than triple initial projections. While at this point, it appears that the average size loan per client will fall below the level initally projected because little medium term credit was provided the first year, the Mission estimates a total credit volume larger than that programmed for the first year. Such acceleration in this part of the program is expected to continue and result in an exhaustion of available agricultural credit by August of 1978. In short, the performance thus far points out that INVIERNO is an extremely capable institution which once it has its plans outlined, moves very quickly. Such is the case in its agricultural credit program and is anticipated to be the same in its other programs which are currently getting started.

The second argument for a prompt follow up derives from the desirability of further perfecting the INVIERNO model as soon as feasible. This perfecting of the model has two specific dimensions. First, is simple growth and the INVIERNO systems' capacity to handle this growth. The first loan concentrated on creating INVIERNO; the second must concentrate on insuring that INVIERNO receives adequate assistance to offset those problems identified as consequence of rapid growth such that the system can operate efficiently with the large number of clients anticipated. Second, is the need to provide additional basic banking services for the rural families. Already, INVIERNO is planning to initiate savings accounts to complement the production credit services. A third type of banking service planned but not included for assistance under the first loan, is home improvement credit, a banking service which translates into a direct and essential improvement of the rural population's standard of living.

Of course it is recognized that it is too early to judge INVIERNO's performance thoroughly. Nonetheless, the success so far and the momentum attained must not be lost for lack of sufficient financial support. Thus, the Mission considers of highest priority this follow up loan of 11 million dollars to provide for both the technical, commodity and training assistance to perfect the INVIERNO model and the capital assistance to expand the program.

## 2. DESCRIPTION OF THE PROJECT

The RDSL II will help finance three major activities. These activities include the expansion and strengthening of 1) INVIERNO system i.e., the central, regional and development center (CEDE) operations, 2) the INVIERNO small farmer services program and 3) the INVIERNO rural development services programs. The proposed inputs and outputs to achieve this expansion and strengthening are discussed next by area of activity.

### A. The INVIERNO System

The INVIERNO operations can be viewed at three levels: the central office where the planning and programming operations are conducted as well as the basic banking and accounting functions, the regional centers which coordinate between CEDES and the central office and the CEDES where actual program implementation occurs. A fourth level of the INVIERNO system can also be delineated. That level is at the localidad where the INVIERNO clients meet with the INVIERNO CEDE operations staff. In fact, it is this level of the system which appears to be a major reason for INVIERNO's initial success in the agricultural services program. The client does not have to go to the bank, but rather a mobile bank goes to the client. Actual credit disbursements and all other services are provided at the community level and not in the CEDE itself. However, while this is a critical dimension of the INVIERNO system and it is important that it be understood, ease of programming argues for only three levels.

The RDSL I provided support for creating the system in two regions of the country. Inasmuch as the central office was the key to launching the program, the RDSL I concentrated much support at this level. However, RDSL II looks towards expansion and strengthening the system and it is in the area of CEDE and regional level expansion where the most obvious changes will occur and are considered first. As of 1978, INVIERNO will have nine CEDES and one regional office. Seven of the CEDES will be located in Region V and two in Region II. These CEDES and the regions can be reviewed on Figure 2. This programmed expansion through 1978, varies from the original programming in two ways. First, fewer CEDES are planned. This results from INVIERNO expanding the zone of influence around each CEDE from the original 15 kilometer radius to 25 kilometers. INVIERNO studies indicated that the CEDES, if in well selected locations, could service this larger area and thereby reduce the fixed costs attached to setting up

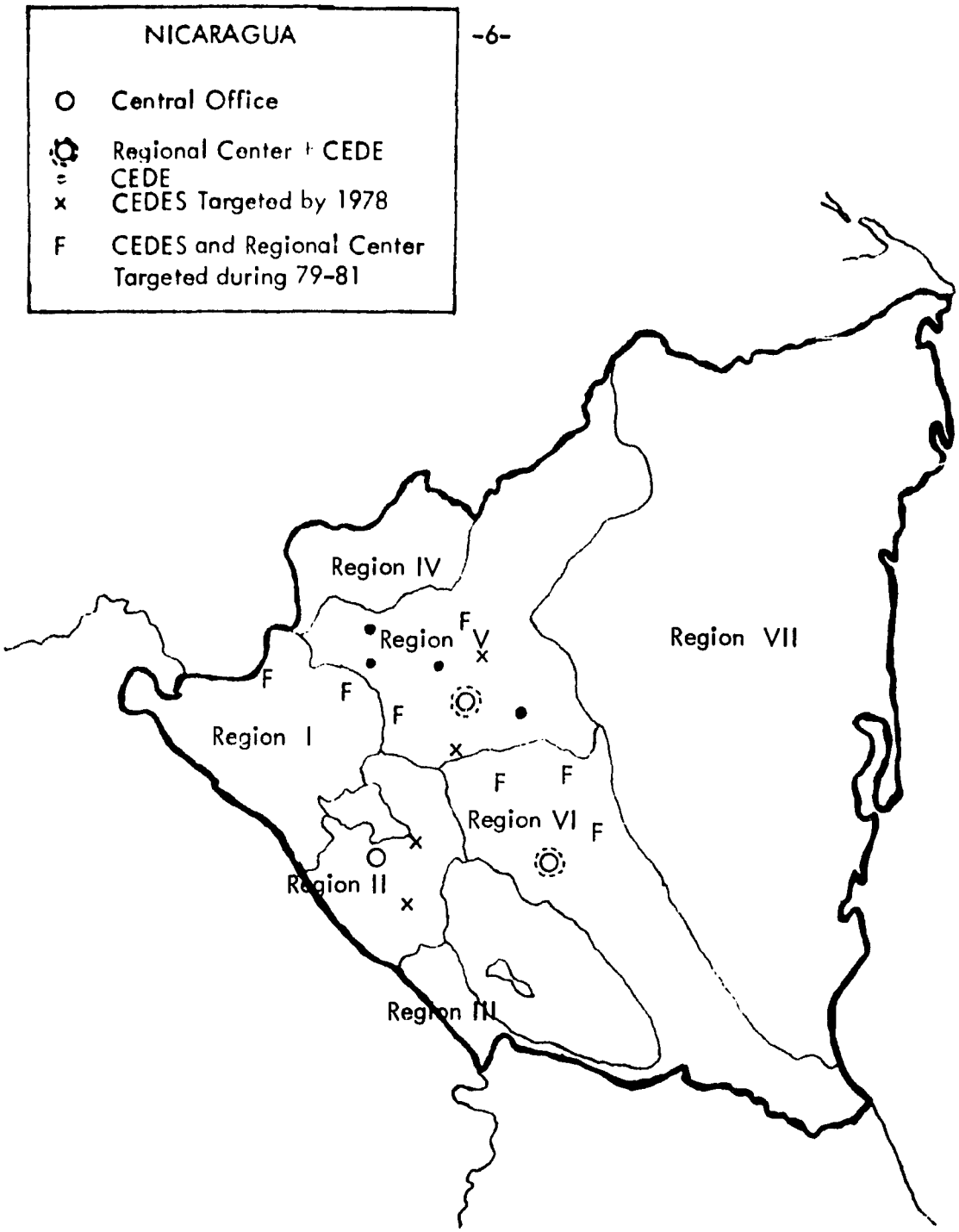




FIGURE 2. INVIERNO CURRENT AND PLANNED FIELD OPERATIONS BY REGION

additional CEDES. Secondly, the CEDE expansion and coverage in Region II is less than originally programmed. Again subsequent studies indicated that the near term program could be better conducted and that relative needs were greater in Region V than in Region II. The Mission agrees with both positions.

Figure 2, also provides an overview of the numbers and geographic expansion of CEDE coverage for the 1978/81 period. In total, eight additional CEDES and one regional center are to be set up. For 1979, one additional CEDE is to be opened in Region V. In 1980, the INVIERNO system will expand into Region VI and open four CEDES and a regional office. In 1981, three additional CEDES are planned; one more in Region V and two CEDES in Region I.

The actual CEDE expansion at this point must be considered tentative. However, the above described approximate pattern of geographic expansion can be considered firm for several reasons. First, from Figure 2 it is clear that the expansion of INVIERNO's total zone of influence will be based on the growth of a contiguous area and not a hodge podge placement of CEDES throughout the country where the problems of varying eco/climatic conditions could complicate the program. For example, moving into the dry areas of Region 1 is deferred until 1981 because at this point, INVIERNO is not in a position to offer sound advice as to the appropriate dryland crops and cropping technologies. As the zone of influence extends in Region V into this dry contiguous area of Region 1, experience will reduce these problems. Two, the areas of expansion are where the needs are greatest. The Boaco/Chontales area of Region VI and the dry region of Region 1 are two of the most depressed rural areas of the country. And three, simple efficiency of operation argues for outward expansion into adjacent areas of the type described. The Mission agrees with this expansion pattern and under the proposed loan will assist in setting up the eight CEDES and the one regional office to a functional level.

The type of assistance to be provided under the loan in this area of CEDE and regional office expansion is commodity financing or more specifically, vehicles. As mentioned above, an important key to INVIERNO's field success thus far has been the mobile aspects of the INVIERNO approach. To continue this effort, approximately one hundred additional support vehicles will be needed at an estimated cost of $600,000 dollars. The GON will finance all other

operational support costs in setting up these CEDES and the regional office. While expansion of field operation entails the most obvious changes of the proposed assistance to the INVIERNO system, other assistance oriented towards strengthening the total system is considered by the Mission as more important in a development context.

With respect to total INVIERNO system, several areas will begin to be critical by 1978. First, the numerical expansion of clients under the agricultural credit program and other banking services will place pressures on the data processing system. Secondly, the small farmer strategy being employed by the GON and conducted by INVIERNO, envisions crop diversification as an increasingly more important dimension of the small farm expansion effort over time. Thirdly, the growth of its other programs as well as the needs to coordinate with other agencies of the government as they initiate rural development programs will place tremendous burdens on communications systems. To resolve these problems, the proposed RDSL II will provide technical and commodity assistance as well as training.

Technical assistance is programmed at a level of 25 persons months at a total cost of $150,000. Although not as yet subject to precise programming, the technical assistance will include data systems analysts, horticultural specialists, and extension specialists. Other specialists may also be included as projected technical assistance requirements for the period 1979-81 become more clearly identified in 1977. With respect to technical assistance the potential support of ROCAP assistance in all areas, particularly data systems under the PIADIC program and horticultural specialists, will be taken into account.

Commodities will also be financed including about two hundred thousand dollars for automatic data processing equipment rental and the purchase of radio communications equipment. Again, exact specifications of the equipment are not known and will be developed over the next year as the future equipment requirements become more apparent. During this period, not only the specific needs of INVIERNO will be considered but also the manner in which their ADP systems are linked with agencies of the Ministry of Agriculture. For example, it is imperative that INVIERNO data be easily available to the Ministry of Agriculture's planning, programming and evaluation unit as well as the new Institute for Technical Agriculture and vice versa. The current role of automatic

data processing in the INVIERNO system has been crucial to their rapid expansion in agricultural credit as it is the only way to handle a large number of small volume accounts in a cost efficient manner. It was the GON who took the lead in this critical area and the Mission now recognizes the major importance of that step.

Training under RDSL II is programmed at $250,000; including mostly third country training with some training equipment and short term contracted instruction. INVIERNO recognizes that with program expansion the needs for staff specialization will increase particularly in the field. INVIERNO has already identified specialized two year training courses in agricultural fields such as input distribution and marketing, horticulture, farm management and etc. in several U.S. Universities. Such training programs lead to an associate degree and require only high school educations. This type of training appears to be ideally suited to upgrading within field level personnel and moving them into more specialized areas of operations as the system requires during the 1979-81 period. This area as the other will be more fully considered in the development of the loan and the level of assistance may be increased.

B. Small Farmer Programs

As aforementioned a key to the GON's 1975/80 rural development is the expansion of the small farm sector. The reasons for this are clearly enunciated in the Nicaraguan Agricultural Sector Analysis as follows:

1. It would have a direct impact on income distribution problems in the rural areas as the small farmers comprise a large portion of the rural poor.

2. It would have a positive impact on employment problems. An expanding small farm sector would generate greater demands for labor than would medium or large farm expansion because of the tendency of the latter towards mechanization. Also the increased opportunity costs on the small farms would tend to shift back the supply curve of labor which would also have a positive impact on wages.

3. An expansion of the small farm sector is the best way to achieve medium and long term growth from the agricultural sector as well as simultaneously expanding the sector's narrow economic base from the four or five major export crops.

4. Small farm expansion is the logical basis for accelerated rural development.

That is, agriculture is the motor that drives the process of development in thousands of small localities throughout Nicaragua. Stimulate this aspect of the economy and the effect is multiplied many times over by increased demand for goods and services which in turn call for specialization in labor which results in increased productivity and again increased flows of services to raise the standard of living and the quality of life.

Given this clear cut position on the expected role of the small farm strategy it should not be surprising that the GON has allocated many of its most competent public sector management personnel and provided them with the necessary funds to initiate the program. Such is the case with INVIERNO, the agency that was handed the small farm expansion mandate as the means to achieve self-sustaining

socio, economic development in the rural areas of Nicaragua. As indicated in Figure 1, INVIERNO is more than small farmer program, yet it is as clear that this aspect of INVIERNO is its backbone.

The theme of INVIERNO's small farmer program is integration, the same theme in its approach to rural development. The difference here is that the integration means providing the individual farm family as well as any organized group of small farmers, access or opportunities to acquire the factors of production to obtain growth of the individual farm enterprise and thus the expansion of the small farm sector in the aggregate.

Required factors of production can be simple stated; capital, labor, land appropriate technologies and management. The INVIERNO integrated approach assists in each of these areas. INVIERNO, CEDES actually deliver capital inputs to the localidades at the right time and a price that reflects costs plus transportation and handling. To assure these inputs are used in an efficient manner, the CEDE level agromocs provide technical advisory services as well as conduct demonstration plot tests in the localities to insure that appropriate recommendations for that specific agro/climatic area are obtained. Adequate tenure over the land factor of production is also a critical dimension and the CEDE staffs provide advice on tenure arrangements which are fair to the client. Also in 1977, the land sale guarantee operation is to begin in an attempt to increase the number of small farmers with the most secure form of tenure; private ownership. To enable the small farmers to acquire these factors of production, INVIERNO has launched a major credit program. Credit to purchase not only necessary capital inputs and rent land, but labor as well, both hired labor and his own family labor. This latter credit takes the form of a maintenance advance and provides the small farmer sufficient working capital to live on if necessary, rather than abandon his fields and work elsewhere because of short term cash flow problems. It is these two latter areas, land sale guarantees and the agricultural credit program that this section of the proposed RDSL II discusses for further support during the period 1978/81. The land sale guarantee program is considered first.

1. Land Sale Guarantee Program

The RDSL I included $550,000 of loan support to be matched by an equal GON contribution to guarantee the sales of land to small farmers. As discussed

in the 031 CAP, this fund would be available to support the purchase of 22,761 manzanas (approximately 44,000 acres) for some 4,500 families. The total value of the land transferred in three years was programmed at about 5.5 million dollars. With a 20 percent capitalization of the guarantee fund equally matched by A.I.D. and GON, amounts of $550,000 were programmed. To insure that the land sale guarantee loan funds were utilized to capitalize the fund, the A.I.D. funds could be disbursed for agricultural credit with reflows passed to the fund on a paripassu basis.

In May of 1976, INVIERNO submitted its plan for the Land Sale Guarantee program through 1982. In the first three years (by 1979) it called for the fund to guarantee the purchase of only 16,300 manzanas for some 1,630 families at total value of land transferred under the guarantee of $1,485,714. By 1982, 76,300 manzanas are to be transferred to about 7,600 families with a total land value transfer over 11 million dollars. In short, the INVIERNO plan begins at a slightly slower rate than programmed in RDSL I but provides more land to more families than envisioned in the CAP. Also, the INVIERNO Plan calls for only a 10% capitalization of the Fund. The Mission has reviewed the INVIERNO Plan and has determined that it is a more realistic plan than that earlier envisioned by RDSL I. The only real concern with these projections is that they have not considered inflationary impact and land value appreciation in their projection of land costs. These have therefore been adjusted for in the following Table 1, which summarizes their current plans. From Table 1, it can be seen that for the year 1979 (June 30, 1979 is the TDD of RDSL I), only about 28 percent of the RDSL I loan funds for this Guarantee Fund will be needed. However, to fully fund the program at the level originally intended, will require additional funding under RDSL II through early 1981. This would result in approximately 56,000 manzanas to be guaranteed for some 5,600 families. Thus, RDSL II will require an additional $400,000 which is matched with $530,000 by the GON. By the completion of the project paper for May 1978 presentation, two major periods of land sales under the Land Sale Guarantee Program will have transpired. This historical sales background, as well as the default rates for 1977 will likely effect these projections. The amount projected thereby for the RDSL II may need to be adjusted. Thus, including further financing of the Land Sale Guarantee Program in RDSL II is not essentially providing more than the Mission originally had designed but rather simply reprograms the original amounts to correspond to revised program timing.

## TABLE I. INVIERNO LAND SALE GUARANTEE PROGRAM

| Year[1] | Amount (000 mz) | Price[2] ($/mz) | Annual Volume Guaranteed ($000) | Fund Capitalization ($000) | Accumulated Fund ($000) | AID Accumulative Share of Fund ($000) |
|---|---|---|---|---|---|---|
| 1976 | 0 | 150 | 0 | - | - | - |
| 1977 | 1 | 165 | 165.0 | 16.5 | 16.5 | 8.3 |
| 1978 | 5 | 181 | 905.0 | 90.5 | 107.0 | 53.5 |
| 1979 | 10 | 200 | 2,000.0 | 200.0 | 307.0 | 153.5 |
| 1980 | 20 | 220 | 4,400.0 | 440.0 | 747.0 | 373.5 |
| 1981 | 20 | 242 | 4,840.0 | 484.0 | 1231.0 | 550.0 |
| 1982 | 20 | 265 | 5.300.0 | 530.0 | 1761.0 | |
| TOTALS | 76 | | 17.610.0 | 1761.0 | | 550.0 |

1. The year refers to an approximate May point as most land sales are likely to occur in the January-April time span before planting.

2. INVIERNO place average land value at $185 per manzana for 1976. Only 80% is to be guaranteed so the price guarantted would be about $150. This base figure ( the same as used in the CAP) is then inflated by 10% annualy to reflect a 7% inflationary rate and a small approximate 3 percent rate of appreciation in land values.

3. Fund capitalized at 10% and not 20% as in the CAP.



UNCLASSIFIED

2. Agricultural Credit Program

The agricultural credit program has been the most dynamic aspect of INVIERNO. In a few short months the program was operating and provided nearly 6,000 crop loans to over 4,500 clients during the primera and postera seasons. Insofar as a good grasp of this innovative program is requisite to understanding the problem facing us with the timing of the RDSL II loan, the program will be briefly reviewed.

To begin, in spite of the fact that the bulk of the credit is for short term crop production, the campesino participating in the agricultural credit program enters into a five year line of credit, based on his needs and his potential for growth throughout the period. The credit program for the client has the long term in mind and as result it is expected to have a very low default rate because the client is being provided more than the single loan. Defaults are expected to be further reduced by a subtle preemptive adjustment mechanism in the loan repayment procedures which compensates the major reason for defaults; low crop yields due to weather. INVIERNO is in the field, knows the locality yield averages and uses them to determine the principal due. If the client so chooses, he can pay more but when a crop loss has occured he has the automatic option of delaying full payment until another crop season. The agricultural credit program is also further automatically tailored to the needs of the clients by separate loan authorizations each season. Prior to the season, the client discusses his plans. Given his intentions on the crops, the type of technology (traditional or modern) and the amount of land to be cropped the INVIERNO agricultural credit system specifies certain amounts for factors of production (seeds, fertilizers, insecticides, land rent, hired labor, and equipment) as well as maintenance. These amounts are programmed to be more than adequate for the average operation and thus the client has an authorization to buy inputs suited to his own perceptions of his farm needs. As a result, actual disbursements of loans authorized are expected to average only about 75 percent.

The above dimensions of the program have thus contributed greatly to the early INVIERNO success. It is an agricultural credit program that responds to the individual needs of small farmers. However, the growth of client numbers in the program is probably due more to INVIERNO's credibility and the way they relate to the clients. First, INVIERNO meets the small farmer clients on a group basis in the localities and not individually in the office in town. The client is

with his friends and neighbors and thus feels safety in numbers. This stems from the mobile banking dimensions of the system. Although, the group method employed here does not require joint and several liability on loans, peer group pressure in the community does play a safeguard role for INVIERNO. The system has one further important dimension that adds to its credibility with the farmers. Interest rates are not subsidized. Interest terms in the first season were 13 percent and were raised to equal the private sector commercial rates of 18 percent in the second season. Although INVIERNO expected numbers to decrease slightly as a result, the farmers were convinced that the system with its mobile bank features was worth this amount and the number of clients increased in the second season.

The final important dimension of this agricultural credit system is the role of automatic data processing. INVIERNO decided immediately that the use of a computer was essential if they were to handle a large number of small volume accounts in a cost efficient manner. In fact, it is doubtful if the line of credit with all its ramifications could be handled without a computer. Also this dimension has another interesting sidelight which results in a further service to the clients. INVIERNO will be using the information on clients to provide them with computorized farm management services similar to those being offered in major U. S. University Extension Services.

For these reasons, the agricultural credit program is projected to increase rapidly in the number of clients served. Already, INVIERNO has determined an additional 74 agromocs (field level agents) will be hired in 1977. This will bring the total number of agromocs to 123. Using the same client loans/agromoc ratio of 75 achieved during the second season of 1975, INVIERNO should be adequately staffed to service the 18,000 loans targeted for 1977 (these 18,000 seasonal loans stem from 12,800 projected clients). This rapid expansion coupled with uncertainties of the credit levels to be financed that can occur under the system for a given year, leads to the major problem of timing the RDSL II. To examine this aspect of the RDSL II and the level of proposed financing needed through August of 1981, the Mission requested INVIERNO to provide us their projections for agricultural credit seasonal flows through 1982. These projections have been thoroughly reviewed by the Mission and can be reviewed in Attachment B. The projections in terms of funding requirements by years have been summarized and are included in Table 2.

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TABLE 2- AGRICULT. CREDIT FUNDING REQUIREMENTS BASED ON NORMAL YEAR AUGUST DEMAND LEVELS

BY YEARS ($000)

| ACTIVITY | YEARS | | | | | | |
|---|---|---|---|---|---|---|---|
| | 1976 | 1977 | 1978 | 1979 | 1980 | 1981 | 1982 |
| A) Ag. Credit Demand as of August | 1008.8 | 5013.2 | 7211.1 | 10230.2 | 13885.1 | 17391.2 | 21551.4 |
| B) Adjustment for ST Recuperations and Interest | 0.0 | 991.7 | 4362.8 | 6278.5 | 8910.2 | 12096.2 | 15152.2 |
| C) Adjustment for MT Recuperations and Interest | 0.0 | 3.4 | 133.5 | 320.0 | 584.0 | 941.8 | 1389.6 |
| D) August Funding Level Required (Net annual) | 1008.8 | 4018.1 | 2714.8 | 3631.7 | 4390.9 | 4353.2 | 5009.6 |
| E) Accumulated Funding Level Required | 1008.8 | 5026.9 | 7741.7 | 11373.4 | 15764.3 | 20117.5 | 25117.5 |
| F) A.I.D. share (50%) | | | | | | | |
| annual | 504.4 | 2009.1 | 1357.4 | 1815.8 | 2195.5 | 2176.6 | 2504.8 |
| cummulative | 504.4 | 2513.5 | 3870.9 | 5686.7 | 7882.2 | 10058.8 | 12563.6 |

Source: Projections based on INVIERNO data. See Attachment B.

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Table 2 provides the agricultural credit demand levels and funding requirements through 1982. Row A provides by year, the August level of credit demand rather than the annual credit demand level. This important distinction should be made clear. Within a year, repayments from the primera crop can be reloaned in later lending during the postera crop. Thus, the August demand level for credit reflects the annual credit volume for each year net of the intra-year credit reflows. From the table we see that this level of credit demand increases rapidly in 1977 and then continues with steady range increase of 2 - 3 million dollars annually trhough 1982. The reason for the rapid increase in 1977 is INVIERNO's major effort to get loan numbers up by such that economies of scale can be achieved and reduce the per loan costs of servicing to the 2 - 4 percent range.

The levels of credit projected, when compared with the CAP projections of RDSL I are found to be considerably higher. In fact, such a comparison understates the projected differences because the CAP projections were based on annual credit volume and ignored intra-year reflows. However, using the same basis of comparison as presented in the CAP, i.e., annual credit volume, the projected current level for 1978 is over $9,300,000 (see Attachment B); a level of annual credit volume nearly forty percent higher than programmed in the CAP.

The remainder of Table 2 is quite straightforward. Row B projects short term credit recuperation (again net of intra-year reflows) and row C projects medium term credit recuperations. These projections are then used to estimate the net credit funding required to handle the August levels of credit volume presented in row D and accumulated in row E. Therefore, the projections in table 2 provide a basis to review the potential credit problem in 1978 because of the accelerated expansion of this program as well as the level of financing required to support INVIERNO through August of 1981.

Table 3, attempts to place the problem of insufficient credit funding availability under RDSL I into perspective. It does so by comparing potential reprogramming options under the loan with the projected normal year credit demand expected in 1978, as well as two other possible situations that if they occur, would increase the 1978 funding requirements even further.

TABLE. 3. POTENTIAL CREDIT FUNDING LIMITATIONS WITH RDSL I IN 1978 UNDER ALTERNATIVE ASSUMPTIONS AND REPROGRAMMING OPTIONS

| Item for 1978 | Current Projected ($000) | Situation A ($000) | Situation A ($000) |
|---|---|---|---|
| A. Ag. Credit Demand as of August | 7211.1 | 8172.6 | 9374.4 |
| B. ST Recuperations + Interest | 4362.8 | 3926.5 | 5671.6 |
| C. MT Recuperations + Interest | 133.5 | 120.2 | 173.6 |
| D. Net August Funding Required | 2714.8 | 4125.9 | 3529.2 |
| E. Accumulated Funding Level Required | 7741.7 | 9152.8 | 10063.5 |
| F. A.I.D Share (50%) | | | |
| Annual | 1357.4 | 2063.0 | 1764.6 |
| Cumulative | 3870.9 | 4576.4 | 5031.8 |
| G. RDSL I Ag Credit Funds Available minus the alternative levels of requirements ($3,200,000) | -670.9 | -1376.5 | -1831.8 |
| H. Same as G but includes $400,000 land sale guarantee funds reprogrammed ($3,600,000) | -270.9 | -976.5 | -1431.8 |
| I. Same as H above but adds $800,000 technical assistance reprogrammed ($4,400,000) | 529.1 | -176.5 | -631.8 |

Under the first column, the current projections for 1978 are pulled from Table 2. This situation considers the assumptions made by INVIERNO are sound and that the situation in 1978 is normal. Row G, then considers these normal year projections in the context of the 3.2 million dollars of ag. credit funds available under RDSL II. A shortfall in credit funding available results of slightly more than $670,000 (A.I.D. share only). This potential shortfall can be considerably reduced if the anticipated $400,000 which will not be necessary for funding the land sale guarantee (assuming the current projections in this program are correct), is reprogrammed for agricultural credit. Further, if in addition to reprogramming the $400,000 from the land sale guarantee program, the additional $800,000 requested reprogramming of the technical assistance fund unused in the organization of INVIERNO is allocated to Agricultural Credit, then the potential credit shortfall given a normal year in 1978 could perhaps be circumvented. The only problem with this is the question concerning the normality of 1978 and whether the original assumptions used were correct. A non-normal dimension of 1978 is considered first in Situation A of Table 3.

As previously discussed, the INVIERNO agricultural credit system has built into it, flexibility to automatically meet the needs of the individual clients. These same flexibilities for the individual client can be reflected in substantial fluctuations in credit demands and credit recuperations. Situation A, thus considers the impact of a poor 1977 crop year. If this occurs then both recuperations in 1978 will be decreased as well as a likely greater credit outflow in 1978. This decrease in recuperations stems from the system's capacity to adjust payments due to the poor crop year. Assume under Situation A that recuperations decrease 10 percent in 1978 as a result of a poor crop year in 1977. Also, if 1977 is a bad year, it is likely that the average rate of loan withdrawal is expected to be 75 percent. In Situation A, assume the rate increases to 85 percent. Thus, the agricultural credit demand as of August would increase to over 8 million dollars. Medium term recuperations would also be slightly decreased. Thus, an accumulated A.I.D. share of credit funding required, would be increased to well over four million in 1978. The impact on A.I.D. available funding under the reprogramming options is also clear. Even with total reprogramming a potential $175,000 shortfall exists.

Situation B considers a different problem facing projected needs for agricultural credit. The projections made are based on sound logic and are consistent with earlier work in the CAP except for one area; the average loan size per client.

In the CAP, which was based on sound farm management studies, the average loan per client by the third year was expected to average $977. Under the INVIERNO projections in Table 2, this average is only $609 per client on a withdarwal basis. Looking at the average loan size projections used in Table 2, the Mission notes that they are based on the acutal performance in 1976 with an annual multiplying factor which reflects the introduction of medium term credit, a rate of inflation at seven percent annually and a five percent figure to pick up the expected effects of clients shifting to higher technologies and crop diversification which should result in higher input usage. This latter five percent may be appropriate on a longer term sustained basis but it may be understated for the change from the first year of operation to the second as the conservative nature of famers under a new program has perhaps unrealistically reduced the average amounts of usage of inputs this first year. In any event, situation B assumes that the 1978 average loan annual utilization is actually $790 which splits the difference between the current projected rate and the CAP projected rate. This results in about a 30 percent increase in credit volume. Thus, both the August demand level and the 1978 recuperations are increased by this amount. (Note, the 1977 demand levels must also be adjusted and have been included in these calculations). The result of this exercise indicates that if the estimates on loan volume per client should increase at least fifty percent closer towards those determined in the earlier CAP projections, the potential shortfall could be much greater than currently expected. Also, independent credit projections done by the consultant on the INVIERNO evaluation resulted in a much larger agricultural credit shortfall in 1978. (See Evaluation in Bulk files.

It is these concerns which have led the Mission to seek an FY 78 authorization of RDSL II prior to the potential August 1978 agricultural credit crunch. Even assuming that the necessary reporgramming of funds is achieved, the potential for a shortfall must be considered as a strong possibility at this point. However, a key point in time where the Mission will make a decision on an FY 78 loan for 4 years or an FY 79 loan for 3 years will be during August of 1977. At this point, the agricultural credit situation of 1977 in terms of client numbers, levels of loan authorization as well as the type of crop year, will all be known. Thus, at that time the

projections for 1978 will be much more solid and if, by virtue of reprogramming, it appears adequate funds will be available through August of 1978, the RDSL II will be entered in to the Mission's 1979 ABS. The situation at that time will also be beneficial to sharpening the agricultural credit needs to 1981. However at this point we must provide an estimate of th needs for agricultural funding using the projections in Table 2.

Returning briefly to Table 2, we see that the total accumulated funding required for the year 1981 based on August net year demands (Row E) is $20,117,500. an A.I.D. share of this at 50 percent, is $10,058,800. The total agricultural funding available under RDSL I assuming the described reprogramming is authorized would be $4,400,000. Thus, the amount of agricultural credit to be financed under RDSL II is budgeted at 5,600,000 and will be matched by an equivalent GON contribution. Again, this amount must be considered as tentative based on the uncertainties facing the Mission at this time. Given another year of operation and the assistance of an agricultural credit expert to thoroughly review the INVIERNO system, the Mission will be able to provide a much stronger supported estimate.

C. Rural Development Programs

INVIERNO as indicated in Figure 1, is much more than an agricultural credit program. It is the major agency of the GON to carry out the integrated rural development strategy. It will do so by providing integrated banking and development services itself directly to families, organized rural groups and rural communities as well as coordinating with GON agencies to provide their specific services to rural communities. The proposed RDSL II continues to support INVIERNO expansion of these services in two areas, access road betterment and its program of small rural enterprise/cooperative development. The proposed loan also provides support to INVIERNO in an area not included in RDSL I; the INVIERNO home improvement program. Each of these programs is discussed separately.

1. Access Road Construction and Betterment

The basic development units of the INVIERNO target group are the small rural villages and communites where the Nicaraguan rural poor are located. These villages range in size from a few to over 200 families and represent INVIERNO's primary focal point for the delivery of goods and services to small farmers. A critical element of insfrastructure required to permit rural communities to respond to integrated development services (Agricultural production, health, education) is an access road outlet, joining the communities to primary and secondary road networks.

Under AID Loan 524-T-031, high priority was given to an access road betterment activity that could be initiated to coincide with INVIERNO's entry into Region V with an integrated agricultural development program. A detailed and comprehensive access road betterment project has been prepared by INVIERNO and approved by AID for implementation during 1977-1979. The access road construction planned under AID Loan 524-T-031 will link INVIERNO's target communities in Region V to primary and secondary road networks. The access road outlets are designed to permit passage of truck traffic during critical planting and harvest periods in order that related goods and services can move more efficiently into and out of rural communities. The road betterment will upgrade more than 40 separate short 2-3 Km. segments which link isolated communities with main roads, such as the all-weather, two lane truck lines being constructed under AID -L-026.

The purpose of this project is to assist INVIERNO and the National Highway Department, to develop and maintain a continuing rural access road construction capability to carry out the necessary improvements as INVIERNO broadens its activities in Region V and initiates integrated development services in other regions (e.g., Region II, VI). For each access road segment to be constructed under AID Loan 524-T-031, separate construction plans and agreements are being prepared and jointly approved by INVIERNO and the Highway Department. The construction agreements include route identification, road design standards, detailed budget estimates and the period of construction.

The project, building upon the experiences gained under AID Loan 524-T-031, will construct or improve approximately 100 Kms. of access roads annually over a four year period (1979-82). These improvements are required and will be made in the areas of INVIERNO operation and influence. The roads to be improved will be upgraded to minimal all-weather standards without shoulders and with a roadway width of approximately 3.5 meters. The Ministry of Public Works, through the Nicaraguan Highway Department will manage and implement the project according to implementation plans jointly prepared by INVIERNO and the Ministry of Public Works and approved by AID. Although it is expected that the Highway Department will implement the major portion of this program, other entities, both public and private, may be sub-contracted to implement construction and improvement of access routes where it is deemed feasbable and in the best interest of advancing project implementation. All sub-contracted construction and improvement financed by A.I.D. will be subject to the approval of INVIERNO and AID.

INVIERNO will provide the overall planning guidelines and identify the specific areas of concentration and or the roads to be improved under the access road betterment works. The Highway Department, with the approval of INVIERNO and AID will develop the standards of construction, equipment required, and construction and implementation procedures.

Maintenance of construction equipment and the completed roads will be the responsibility of the National Highway Department. The Highway Department is the most adequate GON institution to provide road maintenance since they have both the expertise and site installation to provide this service.

As under AID Loan 524-T-031, the basis for selection of access roads for improvement will be to select those roads for improvement which will enable INVIERNO's rural development Centers (CEDES) to serve the greatest number of rural families at least cost. The selection methodology already approved by AID and designed to achieve this objective will be utilized by INVIERNO to select the road projects for improvement under this project. Accordingly, identification and justification of the routes to be improved (including cost estimates) will be

developed during the intensive review.

The sub-activity proposed herein will be carried out over a four year period beginning in CY 1979 and terminating in CY 1982. It is estimated that during the life of the project the following inputs will be provided:

| Activity Description | Contribution ($000) AID | GON | TOTAL |
|---|---|---|---|
| Highway Construction Equipment | 1.100 | | 1.100 |
| Spare parts | 70 | | 70 |
| Access Road Construction and Improvement (400 kms. at $5,000)[1] | 720 | 1.280 | 2.000 |
| Hand Tools | | 20 | 20 |
| Contingencies | ——— | 50 | 50 |
| TOTAL | 1,890 | 1,350 | 3,240 |

1/ Currently estimated average cost per Km.

It is anticipated that INVIERNO will extend its present agreement with the Highway Department to implement the proposed road construction program. As indicated above, the National Highway Departmentis considered as technically competent and has in place (or can put into place) construction camps for routine equipment maintenance, repair, and general field logistics support. Equipment maintenance and repair of the second and third order will be carried out at existing Highway Department camps in INVIERNO's target regions. These facilities are considered to be adequate for providing the required equipment maintenance during the life of the project. In addition, the Highway Department

maintains a spare parts inventory and has the expertise for performing maintenance in heavy and light road construction equipment.

With reference to program outputs directly related to the INVIERNO target group beneficiaires, it is antcipated that construction and improvement of the proposed 400 kilometers of access roads to all weather standards will provide (a) economic benefits to farmers in lowering transportation costs of farm input supplies and product output resulting in increased disposable income and (b) social benefits, i.e., improved mobility of the rural population resulting in greater access to services available at market towns and education and health centers.

The Government of Nicaragua will share the cost of the access road imporvement program on a 40/60 basis. The combined contribution will amount to an estimated $3.250 million. The cost of road works will be limited to no more than $7000 per kilometer. The USAID used US$5000 per kilometer for preliminary planning purposes, however, higher design criteria for certain specific routes to be selected for construction or improvement during intensive review may require that the costs per kilometer be increased as much as US$7000.

The GON will contribute at least US$1.350 million of counterpart funds for access road construction of which an appropriate amount will be included in the Ministry of Public Works annual budgets over the life of the project specifically earmarked for maintenance of the equipment provided under this program, and to pay the salaires of equipment operations. The use of the GON funds for equipment maintenance and machine operators costs will be jointly agreed upon with INVIERNO and the Highway Department as certified under INVIERNO's institutional agreement with the Ministry of Public Works.

A total of $1.180 million of AID funds will be allocated to the purchase of road construction and maintenance equipment, and spare parts in the first year of the project. Local labor will be utilized to the extent possible as each sub-project construction plan will be designed to maximize the participation of the local communities. INVIERNO through its RAC's and local organizational structure will provide assistance for community organization to facilitate use of local labor.

The major outputs of this proposed activity will include:

| Activity Description | Kilometers 1979 | 1980 | 1981 | 1982 | TOTAL |
|---|---|---|---|---|---|
| Access Road Construction | 20 | 20 | 20 | 20 | 80 |
| Road Improvement | 80 | 80 | 80 | 80 | 320 |
| TOTAL | 100 | 100 | 100 | 100 | 400 |

Construction planned for the years noted above is feasible and is based on previous country experience and analysis in developing the plan for implementing the access road betterment project under AID Loan 524-T-031. The Highway Department and INVIERNO estimate that approximately 100 kilometers of access roads may be improved and/or constructed annually per construction unit (equipment module) proposed for this activity.

In view of the proposed organizational structure, framework and staffing and the combined management and planning capability of INVIERNO and the Highway Department, no major obstacles are anticipated in carrying out this project. The project schedule will be monitored with a modern management information system (MIS) to assure prompt procurement and to expedite the construction process. Major delays in implementation of this project are not anticipated such as those that delayed implementation of AID-L-026 (e.g., major earthquake, shortage of construction equipment in the United States).

With reference to program outputs directly related to the INVIERNO target group beneficiaries, it is anticipated that construction and improvement of the proposed 400 kilometers of access roads to all weather standards will provide (a) economic benefits to farmers in lowering transportation costs of farm input supplies and product output resulting in increased disposable income and (b) social benefits, i.e., improved mobility of the rural population resulting in greater access to services available at market towns and education and health centers.

2. Small Rural Enterprise Cooperative Development

During the first year of operation, INVIERNO concentrated its resources on high-impact services basic to increasing agricultural production, i.e., 1) providing agricultural credit, 2) supporting technical assistance, and 3) input supply and produce marketing services. INVIERNO is also very much aware that other required services that support the integrated services strategy approach to rural development must soon be initiated. Therefore, during the second year of operation, as INVIERNO intensifies and expands its small farmer program activities in Region V and initiates these activities in Region II, they will also begin implementing important supportive activities in community organization and program related to cooperative development and rural small enterprise activities.

This experience will serve as the basis for the later expansion under the proposed project. Accordingly, during the intensive review, the results of these initial activities will provide the basis for a thorough analysis of the proposed methodology to be employed, future demand estimates, and other considerations related to the 1) development of cooperatives and other types of group action organizations, 2) the development of rural enterprises in industry and commerce, and 3) the technical assistance requirements to support the programs of 1 and 2.

a. Cooperative Association Development

As a result of historical problems associated with cooperative development in Nicaragua, there are only a limited number of viable cooperative units presently functioning within INVIERNO areas of influence. Also, because of previous limited effective demand, few private local suppliers were available to provide inputs to INVIERNO clients on a timely basis and at reasonable prices. Therefore, recognizing this situation and the high priority attached to adequate inputs on a timely basis and a reasonable price, INVIERNO directly provided these services to its participating clients during its first year of operation. However, it was clear that such logistic efforts are too costly in terms of lost time of INVIERNO personnel in other development services and that this retailing of input supplies function should be shifted to other organizations. As a result, INVIERNO initiated several

several studies in Region V to determine the conditions necessary to successfully foster sound cooperatives. Cooperatives not only capable of handling the input supply and marketing for basic grains but also cooperatives capable of handling expanded input and marketing services in other crop categories which is a key to the diversification strategy (fruits, vegetables and etc.) and cooperatives capable of responding to other needs of its members in terms of small basic consumer items. The studies have thus resulted in a solid plan for developing five cooperatives in regions V and II during the period of 1977-79; the first one of which is to be initiated in 1977. In implementing this activity, INVIERNO will provide complete promotion and information material to all potential members in the localities within the CEDE. It will also provide technical assistance and training in all phases of the operations, i.e., accounting business administration, pricing, inventory level maintenance and etc. In addition, INVIERNO will assist the cooperatives at the beginning by contracting required management and other support personnel. As the cooperative becomes viable via increased membership (it is planned that at least 500 members must be present to start the cooperative and eventually increase to approximately 2,000 members by the fourth year) the cooperatives will expand their services. First, they will concentrate on input supplies and small basic consumer items and then into marketing services. For example, the plans call for preparation, grading, packaging and handling of major fruits and vegetables by the supply contracts arranged by the cooperatives with volume domestic and export wholesalers.

In initial support of this activity, funds from the RDSL I are available for financing on a sub-loan basis directly to the organization for its basic wholesale inventory stocks, office equipment, vehicles, and warehouse space. As RDSL I is expected to provide adequate financing for only the five cooperatives in Regions V and II during 1977-79 period, increased capital will be required during 1979-81 to finance the additional four cooperatives that are planned. Therefore, RDSL II is proposed to include $475,000 of capital assistance to further support this area of INVIERNO's program. In the loan development, actual implementation of the first cooperative will provide a much better basis for cost estimates. Also, further study will be made with respect to INVIERNO support of smaller, crop specific marketing cooperatives to identify the potential and their financial needs.

b. Small Rual Enterprises

Highly supportive of INVIERNO's mandate directed to improving the conditions of Nicaragua's rural poor is the important activity related to provding increased employment opportunities. The INVIERNO program in this area is to finance necessary tools, vehicles, machinery, construction costs and other support costs required by the small income-generating units to provide for expansion. Thus, increased simultaneously are employment opportunities as well as local supplies of goods and services. Larger units, especially specialized cooperative units composed of target group families could also receive funding. Typical of the kind of enterprises contemplated in this cooperative industry approach are furniture making, bricks fabrication, food processing, rice mills, handicraft and etc. INVIERNO, in all cases, will provide necessary supportive technical assistance and training to all participants. Local level loan approval by INVIERNO's CEDE chief would be granted on loans up to $3,300 and it is estimated that this system will meet the needs of most requests. However, to relieve the decision-making responsibilities at this level, the possible utilization of the ADP unit in a manner similar to the approval system for agriculture credit is being explored.

INVIERNO's present credit demand projections indicate that RDSL I funds for this activity should be exhausted during 1979. Thus, a budget of $350,000 is proposed for RDSL II and is intended mainly for those projects submitted within Regions VI and I and to a lesser degree, the residual needs not fully addressed within Regions V and II. It is estimated that some 2,200 socios will be direct beneficiaries of this activity.

During the intensive review of the project, RDSL I project related activities undertaken will be thoroughly reviewed, and future demand needs determined. In addition, the activities under the proposed Productive Guarantee Program which the Mission is presently preparing will be analyzed to determine if the more credit worthy of INVIERNO project clients could receive their assistance from this source. At this point it is felt that given the geographic and target group focus of this proposed project, and the PCGP loan pre-requisites, little project duplication is contemplated.

c. Project Supportive Technical Assistance

To assist INVIERNO and the managers of the cooprative consumo store or

or other associative type institution being established at CEDE level, it is expected that project supportive technical assistance to all levels from CEDE to regional to national must be provided. Though the specific amounts and types of T.A. will be further identified during the intensive review of the project, preliminary reviews indicate that needs would probably be to overall cooperative store administration, retail/wholesale merchandizing, local-regional and national marketing considerations, and possibly the creation of a regional and national supply and marketing federation. At this point, RDSL II, is budgeted for $75,000 to provide this type of technical assistance.

3. Home Improvement Program

The law creating INVIERNO charged it (and the Nicaragua Housing Bank (BAVINIC) with the development of a national plan and program for rural housing. In may last year, INVIERNO completed thier analysis of the rural housing sector, the results were dramatic. The study indicates that the great majority, (96%) of the rural families in Nicaragua live in rustic shelters called "ranchos" or "chozas"[1/]. Typically, the roofs of these houses are constructed with palm trees or straw; the walls of sundry untreated boards of other light materials, and the floors from dirt. The study indicates, further, that approximately 50% of the rural houses, or to be precise 44.630 "chozas", contain one room only in which over 265,000 people (6.2 per room) eat, sleep and recreate. Most of the remaining rural population live in the two room shanties called "ranchos".

On the basis of their study, INVIERNO has prepared a rural sector housing plan.[2/] This plan, which has been reviewed and endorsed by USAID as an ideal effort to impact significantly on rural poverty in Nicaragua, would put into place a complementary credit system designed to translate the increased incomes obtained through INVIERNO's production oriented credit programs into

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1/ The National Census categorizes housing as follows: Casa familiar is defined as a room or rooms, constructed with materials guaranteeing durability for 10 years or more and used to house one or more people; Ranchos or chozas are structures containing one or more rooms constructed of rustic, untreated materials with calculated duration of under 10 years. Vegetation, e.g., straw, palm leaves, etc. is typically used for roofing material.

2/ INVIERNO's plan is being reviewed by the Nicaragua Housing Bank.

real increases in the standards of living in the rural areas. In the medium term, 1979-81, the new credit system would enable INVIERNO's members to build better homes, or make home improvements. Stated in another way, the plan would add a critical element to INVIERNO's program to provide integrated development services to the rural poor.

The purpose of this project is to assist INVIERNO establish and implement a rural home improvement program. This program would provide low income rural families with financing for the purchase of locally produced materials to improve their homes. In most cases these materials would be used to: (i) improve flooring with cement, bricks, etc,; (ii) replace roofing with waterproof material; (iii) replace walls and doors with sturdier products; and (iv) add on new rooms including bedroom and latrines and (v) construct new houses. Renovation and/or construction will be accomplished through self help measure, although technical assistance may be provided by the INVIERNO staff.

The credit system to be designed by the project would be based on ability to pay. Sub-loan proceeds would seldom exceed $500; interest rates would be competitive market rates or less[3/]. Terms of the sub-loan would be for periods up to five years. Thus a typical sub-loan of $200, with a five year amortization period, at a 9¾% interest[4/] rate (which would cover the costs of floor and roofing materials) could be repaid over a five year period at $4.32 per month. At an 18% interest rate, the cost of the loan to the client would be $5.08 per month. The USAID estimates that these amortization payments would amount to an expenditure of approximately 7% of the campesinos' monthly family income

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3/ Interest rates to be charged on sub-loans would be determined in the loan development process.

4/ Rate of interest used in the Las Americas project.

The program will cost approximately US$2,010,000. AID assistance includes small amounts of commodity and techncial assistance but is largely comprised of capital subscriptions. AID loan funds and GON counterpart will be apportioned as follows:

| | 1979 | 1980 | 1981 | TOTAL |
|---|---|---|---|---|
| | | (thousands of dollars) | | |
| AID: | 340 | 330 | 330 | 1.000 |
| Commodity Assistance | 46 | - | - | 46 |
| Technical Assistance | 34 | - | - | 34 |
| Capital Assistance (loans to clients) | 270 | 330 | 330 | 930 |
| GON (loans to clients) | 280 | 360 | 360 | 1.000 |
| TOTAL | 630 | 690 | 690 | 2.010 |

The expected outputs per year are as follows:

| | 1979 | 1980 | 1981 | TOTAL |
|---|---|---|---|---|
| Houses built | 300 | 300 | 300 | 900 |
| Houses improved | 1.000 | 1.000 | 1.500 | 4.000 |

These represent around 937 rooms built and 4,843 rooms improved per year which total to 2,811 rooms built and 14, 829 rooms improved during the three year life of the project. The projected number of people to benefit from the program during this period is shown below:

| | 1979 | 1980 | 1981 | TOTAL |
|---|---|---|---|---|
| Families | 1,300 | 1,800 | 1,800 | 4,900 |
| Number of persons (average 6.2 persons 1 family) | 8,060 | 11,160 | 11,160 | 30,380 |

The program will be operated by the INVIERNO staff. BAVINIC will provide both capital, and technical assistance. U.S. and possibly third country technical assistance inputs would be made available as required. As the loan is developed, a thorough review of the technical assistance requirements will be adjusted as necessary.

Although the Mission is aware that the HIG Program is preferred as a source of financing for housing and other sector shelter components, this program is being designed as a demonstration project to show that it is possible to provide modest shelter solutions within the campesino's limited economic capability. The emphasis of the program will be placed upon home improvement as opposed to new housing, and, on directed credit, with loans in materials rather than in cash. It is USAID's opinion that the demonstration aspect can be more carefully controlled if financed on a development basis. This aspect is important in order to bring the program to a point where it will develop a stability sufficient to enable it to move into the second stage of self financing possibly under the HIG Program.

During the life of the project USAID will investigate, interalia, the following:

1. Can the HIG Program be used effectively if the campesino does not have clear title to his land, or if he is only renting?

2. Can a system of collateral and appropriate legal instruments be devised, instead of a mortgage, which will satisfy the needs of the Guarantor (GON), AID, and the Private Investor?

3. Can a system of repayment be devised which is consistent with the irregular income of the campesino, which is related to farm production Normally, the HIG program requires regular monthly repayment to the investor. However, it is conceivable that the INVIERNO and or the Housing Bank could establish a Fund, which would collect from the campesino on say a semi annual basis, while making direct monthly repayments to the investor.

This program represents a very complementary effort to INVIERNO's other programs and one with very great potential. Given the potential, the Mission is anxious to see the program start as soon as possible. The concern at this point is to get the program started correctly on a sufficient scale so that INVIERNO with alternative sources of capital can expand the program successfully after 1981.

## 3. A.I.D. AND OTHER RELEVANT EXPERIENCES

The majority of prior economic development projects in Nicaragua have primarily benefited the urban/industrial and export sectors. The large small farm sub-sector comprised of over 300,000 rural dwellers living on small farm units planting traditional crops, and receiving only limited yields, in most cases have not benefited from these projects. Those limited GON attempts, such as the BNN's program in the late 50s to provide production credit to a large number of small farmers, met with limited success. This program suffered from poor administration, and provided only limited technical assistance and marketing services. Other projects directed to improving the social services and infrastructural systems in the rural area have also had a limited impact because of limited funding and the general ineffective project administration and delivery systems.

Over the years A.I.D. has provided loans for projects intended to improve the social and economic conditions of the traditional small farmer sector (refer to page 5 and Annex V and V A of the Rural Development Sector Loan CAP). These funded a variety of rural physical infrastructure projects and increased the production of basic grains. In retrospect, it appears that in many cases the more progressive elements within the rural sector were the largest beneficiaries of these projects. During this period, the social, and especially the economic plight of the poor small farmer sector, had shown only limited improvements.

The GON's growing concern to fully integrate the rural economy into the overall economy was manifested by their initiating of the rural/ sector assessment . This was undertaken in 1972, and resulted in subsequent policy and strategy papers, and a priority programming document outlying future GON reorganization and development activities. The assessment clearly indicated that the traditional agriculture public sector institutions had been ineffective in delivering in a timely and efficient manner, the development resources and services for which they were responsible. Accordingly, a new institution, INVIERNO, was to be created which would specialize in providing specific development services and resources directly to the large number of small farmers and rural poor, or assist this target group in linking their own problems to the other responsible GON public services. A.I.D. strongly supported this innovative priority initiative with the authorization of Rural Development Sector Loan 524-T-031, a

comprehensive development program comprised of various rural development programs, which was signed in September 1975. The GON's priority support to the project was demonstrated by its ability to provide the necessary supporting budget to quickly contract and train some of its best technicians to expeditiously form at national and field level the new operative mechanism.

The A.I.D./GON experience of this highly experimental approach to rural development under the Rural Development Sector Loan has been limited, but thus far, extremely positive. The recently completed joint-evaluation of the project revealed that in essentially a one year period, a multi-faceted development banking organization had been installed at national level and in one regional area. These had been staffed with enthusiastic development-minded administrators and technicians and were providing credit to more than triple the original clients estimated. In addition, its other supportive services related to extension/assistance, appropriate input supply packages, and important product marketing services were being offered. A closing summary statement of this joint evaluation indicates that the INVIERNO system shows great potential for providing a sustained improvement to a growing number of rural poor project clients. "these project targets could only be achieved by a dedicated staff working in a tightly controlled management system which provided needed support. This is precisely what happened. The entire operational system, from personnel recruitment, through training to execution is one of the most effective we have seen. It is not yet completely functional, nor has it completed a total annual cycle. Still, we are confident that remaining work will be accomplished, the necessary refinements will be made, and the system can be expanded to all of Region II and Region V by 1979."

## 4. BENEFICIARIES

The beneficiaries of this project can be described in essentially two ways. First, they could be specified and quantified by specific project thrust. For example, the agricultural credit program under RDSL II will be providing assistance to an additional 8,600 new small farm clients as well as providing the incremental financing required during 78-81 for the greater utilization of credit of the 15,300 small farmers projected to be benefited under RDSL I. In making these specific impact statements the relative socio/economic position of the recipients could also be put forth. Again in the case of agricultural credit we are talking about small farm families who clearly fall within the congressional mandate. However,

at this stage the second way to describe the beneficiaries is perhaps the most relevant.

The INVIERNO approach is to provide banking and development services in an integrated manner to that segment of the rural population which has a per capita income less than the national mean. Insofar as the rural versus urban real per capita income/differences are substantial, the INVIERNO target group comprises about 80 percent of the rural population. In a 1972 household survey of family heads, it was found that approximately 77 percent of the rural heads of families provided their families a cash income which amounted to $120 per capita. This figure is substantially less than the "New Directions" benchmark of $150 per capita in 1969 prices. However, the survey did not consider in kind incomes nor did it consider income sources from others in the family. Therefore, the survey results in terms of the $150 benchmark are not strictly comparable. Nonetheless, when adjustments of these considerations are made, it is clear that the bulk of the rural population in Nicaragua do fit the income criteria of A.I.D.'s mandate. This is also supported by using other socio/economic indicators such as infant mortality rates, death rates and etc. In short, INVIERNO's target group specification is a relative one, i.e., the rural dwellers below the national average income. The Mission's analysis in this regard has also identified that these same beneficiaries clearly fall within the absolute definitions of the Congressional Mandate. Thus, the INVIERNO target group is the same as the A.I.D. target; the rural poor.

## 5. FEASIBILITY ISSUES

The following constraints have been noted which will receive further analysis during intensive review:

### A. Economic

Commodity Pricing Marketing - An important aspect of project success is the assurance that the expanded INVIERNO, INCEI, and cooperative marketing services will be effective and can absorb the anticipated production increases without affecting serious price reductions. Noting such positive factors as the ever-improving farm-to-market road networks, expanded grain storage facilities, project promoted crop diversification practices, expanded DIPSA marketing pricing reports, and the grov demands for agriculture exports, nevertheless, a study of the entire pricing, eting sector will receive a thorough analysis during the intensive review.

### B Technical

1) Improved Crop Technology - A key factor for assuring sustained economic growth for INVIERNO clients is their acquisition of improved levels of technology directed toward: a) the production of corn and beans and b) the introduction of more diversified cropping practices. Thus far, although appropriate technological packages have been successfully utilized in Region V, insufficient attention has been directed to developing these packages for dryland regions or for introducing diversified cropping practices for all project areas. Coupled with this need for improved crop technology, is the need to train a sufficient number of agromocs to provide client-level instruction in all activities related to growing new crops. It is hoped that the IBD proposed loan with INTA will directly address this concern. If not, specific activities must be developed within both RDSL I and the proposed project to assure development of new technology and new technical skills.

2) Cooperative Approach to Supply and Marketing - Over the long run, INVIERNO will not be able to adequately staff and support the projected client demand for the important supply and marketing services which it presently is providing. Local suppliers often do not appear interested in expanding their facilities to meet the demand.

Accordingly, the development of an appropriate cooperative institution responsive to these critical support functions is presently being undertaken by INVIERNO, and will soon be implemented. The development and implementation of this new system will require priority attention during the next year of INVIERNO's operation, as well as being a subject of investigation during intensive review.

C. Financial

It is not clear to PRP designers whether or not the policy of one standard banking service interest rate for all INVIERNO credit activities is appropriate. Basically it is planned that all credit activities, regardless of term or nature of credit are charged the same rate. Questions of efficiency and equity for medium versus long term agriculture production investments, maintenance needs, land purchase, housing improvement, cooperative development activities and other project banking activities are to be considered during the intensive review.

## 6. OTHER DONOR COORDINATION

USAID has been the major donor of the INVIERNO program. Some small amounts of technical assistance in specialized areas have been provided to INVIERNO via other donor support to the Ministry of Agriculture. In particular, FAO is providing a credit specialist to the MOA which is in turn providing some support to INVIERNO. The Republic of China is presently providing a team of nine horticulture technicians who are working with INVIERNO field personnel and clients. It is anticipated that this will expand by an additional ten technicians. These cases, as well as other instances of technical support will be reviewed thoroughly in the loan development.

While USAID has been the major donor agency with the INVIERNO program largely because it is a highly experimental program and one that requires more loan management than other agencies can normally provide, success of INVIERNO will make it an attractive mechanism to provide development assistance by other donor agencies interested in assisting the GON in accelerating rural development. Therefore, other agencies will be contacted to identify their interest in providing the needed future support for INVIERNO after 1981.

## 7. FINANCIAL PLAN

| Project Specific Inputs | A.I.D. | | GON | |
|---|---|---|---|---|
| 1. Expansion and Strengthening of INVIERNO | | 1,200 | | 4,340 |
| a. Technical Assistance | 150 | | | |
| b. Commodity Assistance | 800 | | 200 | |
| c. Training | 250 | | 140 | |
| d. Operating Expenses | | | 4,000 | |
| 2. Expansion and Strengthening of Small Farmer Programs | | 6,000 | | 6,130 |
| a. Land Resource Adjustment Program | 400 | | 530 | |
| b. Agricultural Credit Program | 5,600 | | 5,600 | |
| 3. Expansion and Strengthening of Access Road Betterment and Construction Program | | 1,890 | | 1,350 |
| a. Equipment | 1,170 | | | |
| b. Construction Services | 720 | | 1,280 | |
| c. Tools and Contingency | | | 70 | |
| 4. Expansion and Strengthening of Cooperative/Rural Enterprise Development Program | | 900 | | |
| 5. Rural Home Improvement Program | | 1,010 | | 1,000 |
| a. Technical Assistance | 34 | | | |
| b. Commodity Assistance | 46 | | | |
| c. Credit Fund | 930 | | 1,000 | |
| Total Project Specific Inputs | | 11,000 | | 12,820 |

In addition, the preparation of the PP for RDSL II will require approximately $50,000 of technical services to thoroughly review the activities described for this project. The tentative list of required

technical services are described in Section 9 Project Development Schedule. These services will be financed with Mission technical support funds.

RDSL II will be accounted for and reported on an accrued expenditure basis. The following table describes the types of anticipated expenditures and the basis of accrual for the project.

| Types of Expenditures | Accrual Bases |
|---|---|
| Technical Assistance | Person months completed |
| Training | Person months completed |
| Commodities | Constructive Delivery |
| Equipment | Constructive Delivery |
| Credit Funds | % of A.I.D. contribution applied to credit disbursements. |

## 8. IMPLEMENTATION PLAN

INVIERNO/USAID credit estimates indicate that by August of 1978, RDSL I agriculture credit resources will be depleted given the current programmed financing levels and a potential credit crunch exists even considering requested reprogramming amounts. It is during this August period that second-planting client loans are programmed, and the first planting loan repayments for 1978 have not yet been received. The programmed expenditure levels for the others RDSL I integrated rural development components are not as clear as they are for agricultural credit. However, given the need to maintain these estimated resources levels to support the integrated services essential to overall RDSL I project success, inter-loan, sub-category transfers presently cannot be contemplated to cover an agricultural credit short fall during the August 1978 period. Accordingly, to meet this deficiency, an AID/W authorization to be received no later than mid-July for the proposed project is being sought. Receipt of this authorization would permit reimbursement payments from the proposed project for those GON credit expenditures made after loan authorization, thereby assuring the 1) continuity of project promotion and development activities, and 2) maintenance of the positive reputation INVIERNO has so quickly been able to establish within the rural sector. The following implementation

has been developed to respond to the forcasted credit deficiencies.

| | |
|---|---|
| Present Project Paper to DAEC | May/June 1978 |
| AID/W Loan Authorization Received | NLT July 31, 1978 |
| Loan Agreement negotiated and signed | September 15, 1978 |
| Conditions Precedent to Initial Reimbursement Disbursement Satisfied | November 1, 1978 |
| First Disbursement made | November 15, 1978 |
| First Evaluation of Sector II Program | September 15, 1979 |
| Second Evaluation of Sector II Program | September 15, 1980 |
| Third Evaluation of Sector II Program | September 15, 1981 |
| Final Disbursement | September 14, 1982 |

It is important to note that during the implementation of RDSL I, much effort has been to be directed to obtaining the personnel required for implementation of the project. Thus the majority of the staff essential to the proposed project implementation will be contracted and trained prior to mid 1978. Minimal staffing increases are programmed during the actual implementation phase of the proposed project.

## 9. PROJECT DEVELOPMENT SCHEDULE

A series of special study activities have been tentatively identified. All are considered important and should be undertaken well ahead of the actual presentation of the Project Paper. AID/W would first be consulted to determine if staffing rolls denote availability of specific skilled people for the time period tentatively indicated. However, to assure qualified consultants are here on timely basis, we have prepared tentative budgets based on present IQC costing estimates. The following is a description of the various technical consulting services required. The detailed scopes of works will be prepared prior to the consultants arrival.

1) Rural Development Evaluation Consultant-Work with INVIERNO and A.I.D.'s Rural Development Office in conducting second annual joint Loan 031 review. Attention would be directed to evaluating all of INVIERNO's interelated development activities with a special focus directed to identifying possible problem areas needing attention in the preparation of the proposed project.

ETA - Early September 1977
Estimated Time - Four weeks
Estimated Budget - $5,000

2) Organization Development/Man Power Systems Expert - Conduct a thorough review of INVIERNO's present operational activities and systems at the national and field levels and present staffing pattern levels and proposed expansions. Specific potential problem areas which might impede implementation of the expanded program such as decentralized organizational system, general staffing shortages, job market availabilities for agromocs, in-service training and other training programs to assure the availability of needed manpower, and other institutional development matters related to the implementation of present and proposed loans will be studied.

ETA - Late September 1977
Estimated Time - Six weeks
Estimated Budget - $7,500

3) Development Training Expert - After reviewing materials from above study, and meeting with appropriate national and field level personnel, the community leaders from INVIERNO "communities" and the membership and management of first and second level INVIERNO cooperative organization, the consultant will assist in the design of 1) appropriate in-service and field level courses, 2) training activities to be funded order the proposed project, and 3) other institutional development training activities to improve skills level of INVIERNO's personnel and project clients.

ETA - Late October 1977
Estimated Time - Four Weeks
Estimated Budget - $5,000

4) Land Tenure Systems Consultant-Review progress, and the various studies, policies, and programs directed to increasing access of land by the small farmer and landless rural poor. Specific areas such as and tieling activities, land taxing systems, the land sale guarantee mechanism, etc. will be studied. In addition, provide appropriate recommendations to assist in the implementation of loan 031 and proposed project's land sale guarantee fund.

ETA - Mid-November 1977
Estimated Time - Four weeks
Estimated Budget - $5,000

5) Agriculture Credit System Consultant-Conduct a thorough review of INVIERNO credit delivery and operational system at the national, field and community client level so that a more thorough understanding of this complex operation can be obtained. Other matters such as repayment rates, interest rate levels, fund capitalization, client response and interest, etc. will also be considered in order that any appropriate modifications to the credit system could be incorporated during the design phase of the proposed project.

ETA - Early January 1978
Estimated Time - Three weeks
Estimated Budget - $3,600

6) Automatic Data Processing Consultant - Conduct a general review of INVIERNO's 1) present and future computer program operations related to the credit and other project supportive activities, 2) projected client credit demands, and 3) future computer program requirements. Provide recommendations on future equipment needs. In addition, provide suggested base data indicators, needed for subsequent project impact evaluations.

ETA - Mid-January 1978
Estimated Time - Three weeks
Estimated Budget - $3,600

7) Cooperative Development Consultant - Conduct a thorough review of the input and marketing cooperative development project and other association and cooperative development activities thus far undertaken by INVIERNO. In addition, review their future implementation plans, and meet with participating managers and clientes in order to provide appropriate recommendations for both the present project and for proposed project activities.

ETA - Early February 1978
Estimated Time - Four weeks
Estimated Budget - $5,000

8) Applied Research Consultant - Study the research activities and future plans of INTA, INVIERNO's specific needs for project supportive applied research related to client demands to initiate more diversified cropping practices, INVIERNO's technological packages now used and those planned for the future, the INVIERNO agricultural extension delivering system, and possible new skills that may be needed. Prepare appropriate recommendations on how resources under proposed project can be utilized to best address any possible problem areas.

ETA - Late February 1978
Estimated Time - Three weeks
Estimated Budget - $3,600

9) Rural Housing Improvement Technician - Study INVIERNO's financing scheme, engineering plans and other project related topics. Also visit INVIERNO field offices and interested participating communities to study project implementation steps. Provide appropriate recommendations regarding the design and implementation of their proposed project component.

ETA - Mid-March 1978
Estimated Time - Two weeks
Estimated Budget - $2,500

10) Miscellaneous Project Consulting Services - Other consulting activities not as yet identified but which will require extra-Mission personnel to assist in project preparation. This is estimated at two man months - $10,000.

In addition to the above technical consulting services, for general information, the proposed schedule for the actual preparation of the proposed project is offered:

- Writing Assignments Designated - Early March 1978
- First Drafts Circulated - Late April 1978
- Complete Final Drafts - Early May 1978
- Mission Final Review - Mid May 1978
- AID/W Presentation - Late May 1978

## GOAL

To improve the standard of living and the quality of life of the rural poor.

## PURPOSES

I. Institutional Expansion

Assist in perfecting INVIERNO's organization and delivery system to efficiently respond to the needs of an increasingly expanding target group over a sustained period of time

II. Agriculture Development Services

Assist INVIERNO in expanding and strengthening its agricultural development service activities related to 1) Production Credit and 2) Land Sale Guarantee as a means of directly achieving a direct immediate increase in the well being of the participating small farmer and sustained development force, i.e., small farmer expansion for the rural sector.

III. Rural Development Activities

Assist INVIERNO in expanding its project supportive rural development activities related to 1) Rural Access Road Construction Betterment, 2) Home Improvement, 3) Cooperative Development, and 4) Rural Small Industry, as a basis for directly improving the economic and social well being of the rural poor within the project area.

## INPUTS

I. Institutional Expansion

1) INVIERNO will contract the following new personnel in terms of cummulative annual totals:

| | 1977* | 1978* | 1979 | 1980 | 1981 |
|---|---|---|---|---|---|
| Administrative | 20 | 21 | 22 | 22 | 31 |
| Technical | 170 | 280 | 300 | 320 | 330 |
| Support | 150 | 200 | 220 | 240 | 300 |
| | 340 | 501 | 542 | 637 | 661 |

*Personnel to be contracted for Loan 031 and to assist later in the implementation of proposed project.

The estimated budget for the period 1979-81 is $4. million

2) Purchase of office furniture equipment and other office needs estimated at $200,000.

3) Provide trained personnel and necessary demonstration and desk materials for expanded in-service and socio-level Training Programs, estimated at $140,000.

AID Resources

1) Purchase of 100 pick-up vehicles estimated at $600,000.

2) Providing of training equipment and short-term contracted instruction and advanced degree and/or third country specialized training to INVIERNO national and field level personnel. Estimated budget is $250,000.

3) Purchase of ADP equipment, short wave radio communication system, and other supportive electric equipment estimated at $200,000

4) Provide an estimated 25 man-months of short-term T. A. for project related assistance related to crop diversification practice, ADP program systems design, etc. estimated at $150,000.

II. Agriculture Development Services

A. Equal A.I.D. Proposed Loan and GON project contribution providing for $11.2 million Agriculture Production Credit Fund.

B. A.I.D. proposed loan contribution of $400,000 and GON project contribution of $530,000 providing for $830,000 Land Sale Guarantee Fund.

III. Rural Development Activities

Rural Access Road Construction and Betterment

A. A.I.D. contribution of $1,890 (1.17 heavy equipment and spare parts, and project material costs of .720 combined with a GON contribution of $1,350 million (1,280 also for project material costs and .70 for hard tools and miscellaneous costs).

Home Improvement:

B. A.I.D. contribution of $1.01 million (.930 capital fund and commodity and technical assistance totaling .090), combined with a GON contribution of $1 million, also for the capital fund.

C. Cooperative Development/Small Rural Enterprise: A.I.D. Project contribution for $475,000 to cooperative capital development fund, $350,000 to increase the original AID/GON Small Rural Enterprise Fund, plus $75,000 for supporting technical assistance.

## ATTACHMENT

## OUTPUTS

I. Institutional Expansion

A) Establishment of one new Regional Office and four new fully equipped RACs Offices and provide for national office capacity to facilitate further program beyond 1982.

B) In-service and third country training to some 360 INVIERNO personnel during each of the four year project will have been given, and project supportive instruction and local demonstrations will have been provided to all participating clients.

C) New systems will have been designed and implemented in such key project supportive activities related to product marketing, crop diversification, ADP systems programming, etc.

II. Agriculture Development Services

A. Production credit loans extended to some 22,000 clients by 1982

B. Some 70,000 manzanas of land will have been purchased by 7,000 clients by 1982.

III. Rural Development Activities

A. Construction of around 80 kms. and improvement of 320 kms. of rural access roads benefitting around 100 communities.

B. Construction of 900 rooms to existing housing units and basic improvement to 4,100 homes over a three year period which will benefit over 30,380 rural families.

C. Establishment of four functioning cooperative stores in Region VI plus providing support to the other stores established in Regions II and V during the first project. Provide credit to around 2,200 small rural enterprise clients.

## CREDIT PROJECTIONS ANALYSIS

The Mission requested from INVIERNO that they make projections on the anticipated agricultural credit requirements through 1982. After receiving these projections, the Rural Development Division throughly reviewed the levels and the various assumptions and the coefficients used in making the projections. This attachment to the project paper simply provides the committee an overview of those assumptions and coefficients used in making the projections.

Table B.1 includes the numbers of loans by season and annually, the total number of clients per year and the average size of authorized loans by season and the weighted annual average. The 1976 data is firm and served as a basis for the projections on loan size. For 1977, the number of loans per season are to increase substantially (almost triple the 1976 levels). This expansion could lead to some questions of validity, however, the Mission notes that a similar expansion of agromocs is also planned. Thus INVIERNO will be prepared to handle these levels, and if the farmer response is comparable to that of 1976, the projected 1977 increase will take place. Seasonal loans are then aggregated to total annual loans and this can be compared to projected client numbers. In 1976, the average number of loans per client was 1.22 . For 1977 it is expected to increase to 1.4 approximately and continue to increase throughout the period, reaching an average of 1.8 loans per clients in 1982.

Table B.2 also provides the average loan size authorized in 1976 and those projected through 1982. For 1976, the weighted loan size was $386 per client and was slightly higher in the primera then the segunda due to an abnormally late start of the second rains which reduced substantially the corn area. For 1977, the average loan size is projected to increase to $482 and is based on the following. First, very little (2.2% of segunda loans) medium term production credit was extended in 1976. Thus, the loan level would be underestimated as a basis for 1977 as medium term investment will be available then. Therefore, INVIERNO assumed that the 1976 level would have been about 10% higher if it had been available in 1976. This results in a loan level of about $429 where medium term investment would comprise about 10 per cent of each loan on the average. Next this base level for 1977 must be increased to reflect inflationary tendencies and a simple greater use of credit to reflect average increases in input usuage. INVIERNO used 7 percent and 5 percent in these considerations respectively such tat the average loan size expected for 1977 is $482. The Mission agrees with the seven percent inflationary factor but considers the five percent a very conservative estimate as it includes the incremental impact of average input increases due to:

1. clients shifting from techA. ( no inorganic fertilizers) to tech B. (inorganic fertilizers).
2. heavier applications of tech B inputs within crop categories over time and,
3. crop shifting into crops which require more inputs per unit area. Our concern in this context is reflected in the text, when situation B is discussed. The last projection

TABLE B.1 - INVIERNO PROJECTED AG CREDIT LOANS, CLIENTS AND LOAN SIZE

| | LOANS BY SEASON | | | CLIENTS | LOAN SIZE ($) | | |
|---|---|---|---|---|---|---|---|
| YEAR | First Loans | Second Loans | TOTAL Loans | TOTAL Clients | Average (wtd.) | First | Second |
| 1976[1] | 2432 | 3494 | 5926 | 4850 | 386 | 415 | 366 |
| 1977 | 8500 | 9500 | 18000 | 12800 | 482 | 436 | 523 |
| 1978 | 11000 | 12000 | 23000 | 15300 | 541 | 490 | 588 |
| 1979 | 14000 | 15000 | 29000 | 18100 | 608 | 550 | 660 |
| 1980 | 17000 | 18000 | 35000 | 20100 | 683 | 618 | 742 |
| 1981 | 19000 | 20000 | 39000 | 22900 | 767 | 694 | 833 |
| 1982 | 21000 | 22000 | 43000 | 23900 | 862 | 780 | 936 |

[1]First data for 1976 are actuals and for second firm expected levels.

SOURCE: INVIERNO

TABLE B. 2 - CREDIT LEVELS PROJECTED BY SEASON BY YEAR
($000)

| | TOTAL CREDIT | | | SHORT TERM | | MEDIUM TERM |
|---|---|---|---|---|---|---|
| Year/Season | Authorized | Disbursed[2] | Disbursed[2] by August | Disbursed[3] | Disbursed by August | Disbursed by August |
| 1976 | | | | | | |
| 1st (actual) | 1009.1 | 548.9 | 548.9 | 548.9 | 548.9 | 0 |
| 2nd (expected) | 1277.8 | 766.7 | 460.0 | 749.6 | 442.9 | 17.1 |
| 1977 | | | | | | |
| 1st | 3703.8 | 2777.8 | 2777.8 | 2500.0 | 2500.0 | 277.8 |
| 2nd | 4967.5 | 3275.6 | 2235.4 | 3353.0 | 1862.8 | 373.6 |
| 1978 | | | | | | |
| 1st | 5385.1 | 4038.8 | 4038.8 | 3634.9 | 3634.9 | 403.9 |
| 2nd | 7049.6 | 5287.2 | 3172.3 | 4758.5 | 2643.6 | 528.7 |
| 1979 | | | | | | |
| 1st | 7700.1 | 5775.1 | 5775.1 | 5197.6 | 5197.6 | 577.5 |
| 2nd | 9900.3 | 7425.2 | 4455.1 | 6682.7 | 3712.6 | 742.5 |
| 1980 | | | | | | |
| 1st | 10505.0 | 7878.7 | 7878.7 | 7090.9 | 7090.9 | 787.9 |
| 2nd | 13347.5 | 10010.7 | 6006.4 | 9009.6 | 5005.3 | 1001.1 |
| 1981 | | | | | | |
| 1st | 13191.0 | 9893.2 | 9893.2 | 8903.9 | 8903.9 | 989.3 |
| 2nd | 16662.2 | 12496.7 | 7498.0 | 11247.0 | 6248.3 | 1249.7 |
| 1982 | | | | | | |
| 1st | 16380.0 | 12285.0 | 12285.0 | 11056.5 | 11056.5 | 1228.5 |
| 2nd | 20592.0 | 15444.0 | 9266.4 | 13899.6 | 7722.0 | 1544.0 |

Source: INVIERNO Projections

1. Disbursed loans are calculated 75 percent of loans authorized.
2. Disbursed by August - 100 percent of Primera and 60 percent of the Segunda.
3. Short Term equals 90 percent of total credit.

required to build credit demand projections for 1977 is to calculate the seasonal loan authorizations. Here, INVIERNO simply used the projected average of $482 and solved for the seasonal averages using the projected loans per season and an assumption that segunda loans will average 20 percent higher than primera.

The Mission excepts this latter assumptions while recognizing that better information during a normal year is the only check on validity. If anything, this assumption also leads to a conservative estimate of credit volume required as a result of a greater utilization of intra-year reflows which are discussed a bit latter. In any event, the primera average for 1977 is estimated at $436 and the segunda at $523. For subsequent years, these seasonal averages were increased by a multiplicative factor of 1.1235 to reflect the 7 per cent assumed inflationary impact and the 5 percent greater utilization of inputs per loan. These projections on loan numbers and average authorized loan sizes were then used to form the basis for agricultural credit funding requirements and can be reviewed in Table B. 2.

Table B. 2 first provides the levels of loan authorization projected for the years 1977/82. Therefore, INVIERNO assumed an average of 75 percent which is perhaps a little conservative after the program is in place. It was accepted by the Mission, however, The next column gives disbursed credit by August which offsets the problem of intra-year reflows. In particular, the situation where about 40 percent of the segunda disbursements are anticipated to be made in November when primera loan reflows are available.

The next three columns describe short term versus medium term. On a per loan basis, short term investments is assumed to equal 90 percent and 10 percent for medium term. This is logical as overtime when the clients continue with the program medium term credit will approach an average of twenty percent, (e.q., in 1977, 1.4 loans per client means about 14 percent of total annual credit would be medium term while in 1982 with 1.8 loan per client on the average the medium term level of the annual credit would be 18 percent). Also, it is assumed that medium term credit will be included in the initial lending of the segunda, therefore, all medium term is out by August.

The final step is the aggregation of the seasonal totals to annual amounts and the consideration of recuperations. Thus, Table 2 in the text simply adds up loans disbursed by August and substracts the short term disbursed by August of the previous year and also an accumulated recuperation of medium term credit where five years is used to recover the original level. Again, at this point no capitalization of the fund from interest earnings was utilized. The assumption was simply that the interest rate would be adequate to cover operational costs plus defaults.

# INITIAL ENVIRONMENTAL EXAMINATION

PROJECT LOCATION : Nicaragua

PROJECT TITLE : Rural Development Sector Loan II

FUNDING : FY 78, $ 11,000,000

LIFE OF PROJECT : July 78 - July 1982

IEE PREPARED BY : John A. Becker DATE

ENVIRONMENTAL ACTION RECOMMENDED:

DETERMINATION : Negative: Environmental concerns being covered in project design process.

CONCURRENCE : DATE 11/5/76

ASSISTANT ADMINISTRATOR' S/DIRECTOR' S DECISION:

DATE:

## INITIAL ENVIRONMENTAL EXAMINATION

I. Examination of Nature, Scope and Magnitude of Environmental Impacts

The Rural Development Sector Loan proposed is a multi-faceted project to assist the Government of Nicaragua's new Institute for Campesino Welfare (INVIERNO) to expand and strengthen their support to the rural poor in Nicaragua. More specifically, the project will assist:

1. strengthen and expand the INVIERNO service delivery capacity,

2. expand small farm operation via increased credit to purchase factors,

3. expand the size and number of small farm operations by providing guaranteed amortization and interest payment to sellers of land,

4. expand the accessability to numerous small localities via access road construction and betterment,

5. expand the number of cooperative associations which will provide rural poor necessary production inputs, basic consumer items and marketing services, and

6. improve dwellings in rural areas.

The impact of these projects has been reviewed in the context of the Impact Identification and Evaluation Form as prescribed. The results are attached.

II. Recommendations for Environmental Action

No separate Environmental Assessment or Environmental Impact statement is recommended.

The proposed project will have an impact on the local environment of a large area of the Nicaragua interior. In fact, a positive human environmental

impact is the intent of this loan. It is also recognized that several of the specific dimensions of the project may result in negative environmental impacts. Therefore, these dimensions will be considered thoroughly as the specific elements of the loan are further designed and programmed. In short, the environmental questions raised are an integral part of the design and development of the entire loan and will be handled by the Mission's programmatic assessment.

# IMPACT IDENTIFICATION AND EVALUATION FORM

| Impact Areas and Sub-Areas | Evaluation (see Key) |
|---|---|
| **A. LAND USE** | |
| 1. Changing the character of the land through: | |
| a. Increasing the population | L |
| b. Exhausting natural resources | L |
| c. Land clearing | L |
| d. Changing soil character | L |
| 2. Altering natural defenses | L |
| 3. Foreclosing important uses | N |
| 4. Jeopardizing man or his works | N |
| 5. Other factors | |
| **B. WATER QUALITY** | |
| 1. Physical state of water | N |
| 2. Chemical and biological states | L |
| 3. Ecological balance | L |
| 4. Other factors | |
| **C. ATMOSPHERIC** | |
| 1. Air additives | N |
| 2. Air pollution | N |
| 3. Noise pollution | N |
| 4. Other factors | |

KEY

N- No environmental impact
L- Little environmental impact
M- Moderate environmental impact
H- High environmental impact
U- Uknown environmental impact

D. NATURAL RESOURCES

1. Diversion, altered use of water _____ N
2. Irreversible, inefficient commitments _____ N
3. Other factors

_____

_____

E. CULTURAL

1. Altering physical symbols _____ L
2. Dilution of cultural traditions _____ L
3. Other Factors

_____

_____

F. SOCIOECONOMIC

1. Changes in economic/employment patterns _____ H
2. Changes in population _____ M
3. Changes in cultural patterns _____ M
4. Other factors

_____

_____

G. HEALTH

1. Changing a natural environment _____ N
2. Eliminating an ecosystem element _____ N
3. Other factors

_____

_____

H. GENERAL

1. International impacts _____ N
2. Controversial impacts _____ N
3. Larger program impacts _____ H
4. Other factors

_____

_____

I. OTHER POSSIBLE IMPACTS ( not listed above)

_____

_____

_____