

PROMESA

Proyecto de Mejoramiento de Semillas

**Quarterly Report
July-September, 1999**

Submitted to the
United States Agency for International Development
Under Contract No. 524-C-00-98-00025-00

Development Alternatives Incorporated (DAI)
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in association with Cargill Technical Services

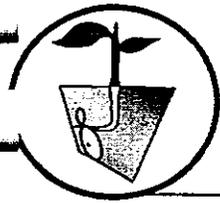
October 31, 1999



PROMESA



Proyecto de Mejoramiento de Semilla / Development Alternatives, Inc



PROMESA

Proyecto de Mejoramiento de Semilla

October 30, 1999

Mr. Ray Baum
USAID/MANAGUA
AMEMB, MANAGUA, USAID
Unit 2712 Box 9
APO AA 34021

Subject: Quarterly Report-Third Quarter 1999
Reference: Contract No. 524-C-00-98-00025-00

Dear Paul:

Pursuant to the referenced contract requirement, Development Alternatives, Inc. (DAI) herewith submits its first Quarterly Report on PROMESA's start-up activities during the third quarter of 1999.

Should you have any technical questions regarding this submission, please do not hesitate to call me at 267-0454. Questions of a contractual nature may be referred to Ms. Margarita Cronin, Senior Contract Administrator (301) 718-8699.

Sincerely,



King Bash
Chief of Party
PROMESA/DAI

Enclosure: As stated

Cc: Martin Napper, Contracting Officer
Marilyn Zak, USAID Mission Director
Rodger Garner, USAID Deputy Mission Director
Paul Crawford, USAID Mission
Leonard Fagot, USAID Mission
Margarita Cronin, DAI, Sr. Contracts Administrator
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Charles Johnson, DAI Vice President, Agriculture and Economics

PROMESA¹
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PROJECT GOAL AND OBJECTIVES

Farmers without access to new agricultural technologies like improved varieties will continue to scratch out their livelihoods on the hillsides, increasing erosion and watershed degradation. New technologies that raise farm productivity can reduce pressures to extend the agricultural frontier into areas unfit for continuous cultivation. Improved seed can raise farm productivity and increase incentives to invest in soil conservation methods. The impact of improved seed is evident in areas where the Red Cross and other PVOs introduced new bean varieties and hybrid maize seed provided by PROMESA after Hurricane Mitch. Our goal is to rapidly increase the use of improved seed by small and medium-scale farmers in Nicaragua.

PROMESA encourages public seed organizations like the INTA and MAG-FOR to provide services the private sector cannot offer. We encourage private sector organizations to assume public sector roles like promoting the use of improved varieties and guaranteeing seed quality, thereby allowing the public sector to reallocate resources to other activities. We encourage seed companies to provide technical information to small farmers, rather than relying on public extension services. We encourage farmers, rather than researchers, to conduct field demonstrations, share technical information, and decide what varieties to plant. PROMESA is organized into three components, corresponding to its primary objectives.

1. Introduction of new, improved varieties;
2. Private seed companies producing and marketing seed efficiently; and
3. Policy environment conducive to the development of a national seed system.

Third Quarter Highlights

New Varieties Introduced

- Field trials established to demonstrate new varieties;
- Seed companies and NGOs join in planting field trials to demonstrate new varieties of beans, sorghum and maize.

Private Seed Companies Growing

- Seed quality control programs implemented by regional seed associations (RSAs);
- More than 300 small farmers in Jinotega and Matagalpa producing bean seed;
- Seed potatoes multiplied to replace Guatemalan table potatoes used for seed;
- SWOT analysis of regional seed associations.

Seed Policies Improved

- Technical support for MAG-FOR and MIFIC advocacy for a plant variety protection (PVP);law.
- National Assembly approves PVP law "in general." PROMESA prepares assemblymen for "article-by-article" debate.

¹ PROMESA (Proyecto de Mejoramiento de Semillas) is a USAID agricultural development project managed by Development Alternatives Inc. under contract number 524-C-00-98-00025-00.

STTA Consultant Activities

- Joe Cortes conducts strategic planning seminars with RSAs (Appendix 1);
- Danilo Benavides develops potato and bean seed quality control programs in Matagalpa and Jinotega;
- DAI's Tonya Giannoni trains PROMESA in project management software;
- DAI's Barclay Howe provides computer maintenance and web page planning assistance;
- INTA and UNA seed specialists conduct workshop on variety demonstrations;
- Roberto Aguirre conducts a workshop on seed distribution systems.

OBJECTIVE I - NEW VARIETIES INTRODUCED

Ia. New Germplasm Accessed

Planned for Third Quarter

Establish seed distribution programs with NGOs and PVOs.

Accomplishments

PROMESA donated more than 1,000 quintals of maize, bean, and rice seed to World Relief for distribution to Mitch victims in Madriz and Nueva Segovia.

Evaluation

The public debate over the plant variety protection law indicates increasing concern over the risks of introducing agricultural biotech products. PROMESA, MIFIC, and the MAG-FOR successfully delineated the PVP and biotech issues for legislators, but consumers remain confused and wary of biotech products.

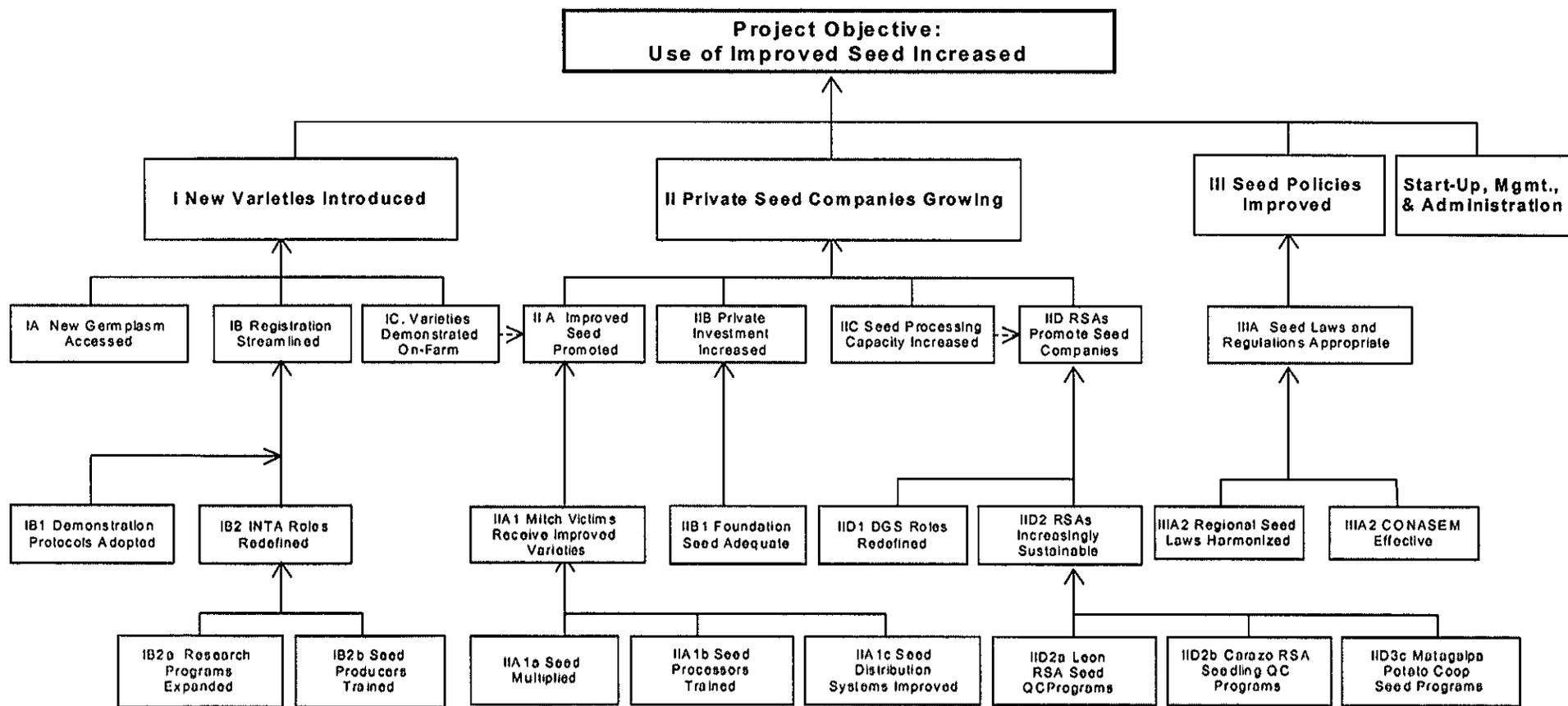
Plan for Next Quarter

Conduct an information campaign to educate policy-makers, farmers, and consumers on the risks and benefits of agricultural biotech products. This campaign, to be conducted over 18 months, will include three elements.

- Seminars to define policies regulating biotechnology products;
- Field days to demonstrate Bt maize and cotton, and Roundup-Ready soybeans and sorghum; and
- A commission to evaluate the potential risks of introducing agricultural biotech products.

PROMESA

RESULTS FRAMEWORK



Ib. Registration Streamlined

Planned for Third Quarter

Engage MAG-FOR in discussions on reducing variety registration costs.

Accomplishments

In August, the MAG-FOR agreed to tag an unregistered bean variety multiplied by PROMESA in Primera. In September, the INTA decided to register the new variety as "INTA Canela," providing another example of how liberalizing seed regulations can stimulate new variety introductions.

The regional seed harmonization project failed to reach consensus on new variety registration costs. The meeting adjourned with plans to review national registration costs and revisit the harmonization issue in a subsequent meeting.

Evaluation

To encourage new variety introductions, Nicaragua needs to streamline its registration process. When PROMESA began, the DGS (Direccion General de Semilla) required at least two years of field trials for new variety registration. In a regional seed harmonization meeting in Panama last January, the DGS recommended reducing the trials to one crop cycle. In April, the DGS used PCCMCA data to register two new maize hybrids PROMESA imported from El Salvador. In July, Nicaragua agreed to accept data from the PCCMCA (Programa Cooperativa Centroamericano para el Mejoramiento de Cultivos y Animales) for variety registration. Now, instead of conducting extensive validation trials in each country, seed companies can use regional PCCMCA data for registration in all Central American countries.

Plan for Next Quarter

The next opportunity to discuss harmonizing registration costs on a regional level is in January, at the final regional seed meeting. If a regional agreement is reached, PROMESA will engage the DGS in a discussion of national registration costs.

IB1. New Demonstration Protocols Adopted

Planned for Third Quarter

Plant variety demonstrations according to the new protocols.

Accomplishments

On July 22-23, PROMESA offered a workshop on demonstration protocols to generate comparable results, make seed research programs more productive, and promote the use of improved seed. Twenty-five field demonstrations were planted according to the new protocols (Appendix 1) The results will eventually be published and updated in a seed industry web page.

Evaluation

PROMESA is coordinating field trials conducted by the INTA, UNA, six NGOS, five farmers, four seed companies, and a farm association to demonstrate new varieties of maize, beans, and sorghum in the major grain production areas of Nicaragua.

Plan for Next Quarter

Follow protocols with farmers, farm associations, and NGOs planting field demonstrations of new bean varieties in Apante.

IB2. INTA Roles Redefined

Planned for Third Quarter

Conduct a needs assessment of foundation sesame seed.

Accomplishments

Due to management changes in the INTA, foundation seed activities were deferred to the fourth quarter.

Evaluation

PROMESA maintains excellent relations and active programs with INTA regional offices, and with INTA Executive Director Luis Osorio, who helps PROMESA advocate for a plant variety protection (PVP) law. But the INTA is in transition, accelerating its privatization program² and searching for new sources of funding.

After more than five years of funding the INTA, and before the beginning another funding period, the World Bank is evaluating the INTA's research and extension programs³. The replacement of former INTA Director Roger Urbina with Genaro Muniz may be a result of this evaluation. It suggests that the INTA will be increasingly responsive to the MAG-FOR and willing to conduct cooperative programs with PROMESA.

Plan for Next Quarter

Management changes at INTA provide new opportunities for cooperation between the INTA and PROMESA, including the following programs.

- Program to produce black bean seed⁴;
- Field demonstrations of improved maize and bean varieties;
- Comparison of seed production costs in Central America;
- Strategic planning with the INTA's foundation seed unit.

IB2a. Seed Research Expanded

Planned for Third Quarter

None

Accomplishments

None

Evaluation

The long-term effect of the INTA taking over the Centro Experimental de Oleojinosas (CEO) in Posoltega last June is difficult to predict. It could facilitate our coordination with the INTA, including its sesame program⁵. In the short run, the CEO remains weak and incapable of

² In this context, "privatization" means charging for technical assistance and certifying extension agents.

³ INTA sources say the World Bank is concerned with the INTA's work to implement MAG-FOR programs, rather than concentrating on technology transfer.

⁴ Black beans can be sold in Mexico in 2000 through multiple channels, including UNICAFE, a marketing program involving APENN and UESA, and direct sales through brokers.

⁵ In August, PROMESA proposed to help INTA promote a new sesame variety from Guatemala called "2000." INTA sesame researchers Dr. Carlos Pineda and Isabel Aburta, and INTA director in Leon Ing.

responding to changes in the seed industry, like the anticipated sale of GRAINCO. Most of Nicaragua's soybean seed comes from GRAINCO, which has one of the country's most productive private seed research program.

Soybeans are a relatively new and potentially important crop in Nicaragua. Soybean production does not require specialized machinery so it is relatively scale-neutral and appropriate for both large and small farmers. Soybeans need relatively little fertilizer or pesticides, and have lower environmental impact than some other grain crops. But soybean farmers in Nicaragua all plant one variety – CEA-CH-86 – and are therefore highly vulnerable to changes in pest and disease conditions.

GRAINCO's new variety – CHEMA-98 – is derived from CEA-CH-86. CHEMA-98 is shorter, resists lodging, and matures earlier than CEA-CH-86 without sacrificing yield potential. GRAINCO sells soybean seed inoculants and is developing a red bean inoculant. It also produces foundation seed under contract with the INTA.

Between 1994 and 1998, Nicaragua's soybean area nearly tripled from 11.7 to 33 thousand manzanas. Last year, low soybean prices reduced the area to 13 thousand manzanas. Some large farmers switched to peanuts. Some small farmers switched to basic grains and sesame. When prices recover, they may want to plant soybeans again. But if GRAINCO closes, their primary seed source will disappear. The sale of GRAXA represents a major threat to soybean production and an important opportunity for another seed company to buy it.

GRAINCO is a subsidiary of Almesa, which includes a feed mill and swine production facility. Almesa is a subsidiary of GRAXA, which includes a vegetable oil extraction plant and other agricultural and non-agricultural assets. In September, GRAXA investors decided to sell their Nicaraguan assets. They could sell GRAXA as a whole, or as separate units. Almesa's feed mill and cold storage facilities may be attractive to poultry producers and distributors. But closing GRAINCO could hurt contract soybean seed and grain producers. Alternative processing plants and seed suppliers exist, but would require several years to gear up to meet current market demand.

Plan for Next Quarter

PROMESA offers to assist in selling GRAINCO as an ongoing seed company, rather than dismantling it and selling it piecemeal..

IB2b. Seed Producers Trained

Planned for Third Quarter

Workshop on artisanal seed production, a joint effort between PROMESA and CIAT's Seeds of Hope program.

Accomplishments

More than 60 seed technicians attended PROMESA's July 22-23 workshop on on-farm variety demonstrations and a September 23-24 workshop on artisanal seed production and marketing.

Armando Seravia supported the program, but former INTA director Roger Urbina did not approve it. The sesame planting season ended on September 15.

Evaluation

Dr. Robert Aguirre, assisted by a seed specialist from CIAT in Honduras and three INTA seed specialists, explored the feasibility of selling artesanal seed through alternative distribution arrangements including a farmer-dealer system, and an Internet-based network.

Plan for Next Quarter

Workshop on seed company management and marketing.

IC. New Varieties Demonstrated On-Farm

Planned for Third Quarter

Recruit seed companies to participate in variety demonstrations and field days promoting the use of improved varieties.

Accomplishments

Twenty-five field demonstrations were planted. These demonstrations involve individual producers, farm organizations, and PVOs. Ten demonstrations include new sorghum varieties, including Sureno.

Evaluation

Before the 1999 Primera season, PROMESA donated hybrid maize seed to the INTA for 36 field trials on small farms⁶ to compare commercial hybrids with new INTA hybrids that could be released next year. PROMESA concluded that these trials were insufficient to demonstrate the potential benefits of maize hybrids to small farmers.

Nestor Bonilla, PROMESA's manager for new variety introductions, and short-term consultant Dr. Joseph Cortes, developed a variety demonstration program offering professional-quality demonstrations and field days to promote maize hybrids. According to this program, technicians from PVOs, NGOs, and farm associations would plant the demonstrations. Farm associations, universities, PVOs, and NGOs (CARE, PRODES, Technoserve, COCABO⁷, CIPRES) and five private farms would sponsor the demonstrations. Seed companies would pay \$50 per hybrid per demonstration. Bonilla met with the major seed distributors in June to seek their participation.

Their response was overwhelming. All of the seed companies agreed to enter hybrids in the demonstrations. AGROCENTRO, CISA-AGRO, and SAGSA wanted to enter hybrids in all demonstration locations. They readily agreed to pay \$50 per hybrid per location, and offered technical support to manage the demonstrations. FORMUNICA, RAMAC, and AGROEXITO donated fertilizer and pesticides. The number of demonstrations grew from nine locations to more than twenty-five.

Plan for Next Quarter

Plant more demonstrations of improved maize and bean varieties in Apante. RSAs will host field days.

⁶ INTA trials are planted on the farms of leaders in rural communities located in major grain production areas.

⁷ Cooperativa de Cafetaleros de Boaco

OBJECTIVE II - PRIVATE SEED COMPANIES GROWING

IIA. Improved Seed Promoted

Planned for Third Quarter

Continue seed promotion activities, including radio broadcasts and technical literature.

Accomplishments

Completed 1,000 radio broadcasts Mitch seed users.

Evaluation

DAI information specialist Barclay Howe and PROMESA's Nestor Bonilla met with MAG-FOR consultant Carlos Rosales to discuss the MAG-FOR's proposed "Intra-net" system based on national agricultural web pages drawing on common sources of information. The web pages will provide information to farmers and extension agents with Intra-net access. This information will be further distributed by fax and hard copy. PROMESA will develop a web page for the seed industry⁸, with links to Intra-net web pages and automatic updates from Intra-net databases. Eventually, the web page will be turned over to RSAs, the Direccion General de Semilla, or CONASEM, which can maintain it at minimal cost.

Plan for Next Quarter

Plan and conduct mass media promotion program to complement field days demonstrating new varieties.

IIA1. Mitch Seed Distributed

Planned for Third Quarter

Monitor performance of hybrid maize seed donated by the Red Cross in Jinotega and the Occidente.

Accomplishments

PROMESA inspected 30 bean and hybrid maize fields in Madriz, Nueva Segovia, Leon and Chinandega⁹, and interviewed more than 40 small farmers to learn their assessments of the donated seed. They said the seed quality was excellent, the donations eliminated seed shortages, and they never had received assistance on this scale.

⁸ Howe explained that the initial stage of web page design is to anticipate the data needs of potential users, define target users, and determine how to analyze information, since it is easier to include features that are unused initially, rather than add them later. He recommended developing data search scenarios for target users, including USAID, NGOs, local government, businesses, and students. Web page aesthetics should convey an appropriate image. PROMESA's Alex Rodriguez and short term contractors can construct the web page.

⁹ After Hurricane Mitch, PROMESA contracted with over 200 small farmers to produce 3,000 quintals (cwt.) of DOR-582 and Tio Canela red bean seed. It also imported 2,000 quintals of hybrid maize seed from El Salvador and Guatemala including two new hybrids – H-53 and H-59. PVOs distributed the seed in "tech-packs" to more than 10,000 victims of Hurricane Mitch, for planting in 1999. Red Cross tech-packs containing two improved seed varieties, two quintals of starter fertilizer, one quintal of urea, and \$30 in cash. PROMESA used radio announcements in a promotional campaign to complement the distribution of seed and tech-packs. Its effect will be measured in the farm survey conducted in November. The survey will also measure the likelihood farmers will repurchase improved seed next year.

Maize yields increased dramatically due to hybrid seed and fertilizer. Farmers in Madriz (Telpaneca, San Juan de Rio Coco, and Quilali) expect maize yields of 70-80 quintals per manzana (4.7-5.3 tons/ha.), where yields typically are 25-30 quintals/manzana.

Ismael Ramirez Velasquez, a farmer in Quezalguaque near Leon, received a Red Cross tech-pack containing 25 lbs. of hybrid maize seed, 2 quintals of starter fertilizer, one quintal of urea, and \$30. He spent the \$30 on a second quintal of urea. He harvested 30 quintals of maize on three-quarters of a manzana - twice the normal yield. His experience shows that small farmers who understand the potential of hybrid seed will invest in other inputs to increase yields. Farmers in Nueva Segovia had similar successes (see box below).

Angela's Masa

Angela Ciles Castellon manages the general store in Panali, a mountain town near Quilali in Nueva Segovia, near the Honduran border. In the 1980s, prolonged conflict between the army and contras, the draft, and draft dodging reduced the local population - particularly males. Now four-out-of-five people in Panali are women.

Angela's father grows maize on a manzana (0.7 hectare) by the Rio Coco. Thirty-three houses and a school were also by the river before it carved its new bed. The houses, school, and much of the farmland disappeared during Hurricane Mitch. Now, in the middle of the rainy season, the wide riverbed is full of sand and mountain boulders. A shallow river winds through it, in contrast to last year's torrent.

The Red Cross unloaded two trucks at Angela's store in early May at the beginning of the rainy season. They gave three sacks of fertilizer and 25-pound bags of bean and hybrid maize seed to each of the 162 families who lost their homes in the flood. PROMESA provided the hybrid maize - HS-5H - imported from Guatemala. PROMESA produced the bean seed - a new variety from El Salvador called "INTA-Masatepe" - after Mitch under contracts with 200 small farmers.

Angela's father applied two sacks of fertilizer and planted the hybrid maize at normal seeding rates. High germination resulted in twice the number of plants he wanted. Then the rains stopped. After a month of drought, he thought the crop was lost. But it recovered when the rains resumed in mid-June.

He weeded and applied the remaining fertilizer in August. He bent the stalks in September to prevent rain from damaging the ears as they dried. He weeded again and planted beans between the rows of drying maize. In October, he harvested 85 quintal of maize, compared to 45 in his neighbors' field where a local variety was grown without fertilizer.

Angela's father expects no flood this year, and no Red Cross donation next year. He will buy hybrid seed "as long as it costs less than \$33 a bag," and use more fertilizer. Given normal rainfall, he expects to harvest 100 quintals (6.5 tons/ha.)

Angela says the hybrid maize is heavier than local varieties, so she expects better quality "masa" maize flour. Meanwhile, her masa market has disappeared. Panali is inundated with maize. Instead of buying and selling masa flour, she is buying and storing maize grain, and planning to mill it.

Evaluation

PROMESA, in collaboration with the MAG-FOR, INTA, and PVOs, helped more than 400 small farmers become commercial seed producers in 1999. We demonstrated the benefits of improved bean varieties and maize hybrids on more than 12,000 small farms.

Plan for Next Quarter

Offer the Posoltega Alcalde to distribute 30 quintals of beans to 300 Mitch victims. Recipients will also receive coupons to buy low-cost, high-quality, open-pollinated maize seed from the Leon RSA.

IIA1a. Seed Multiplied

Planned for Third Quarter

Contract small farmers in Jinotega to produce bean seed in Primera.

Accomplishments

PROMESA and the Matagalpa RSA contracted another 200 farmers in Jinotega, and more than 100 farmers in Matagalpa to produce 320 manzanas of bean seed in the Primera season. The Matagalpa RSA subsequently contracted with small farmers to grow 30 manzanas of bean seed in Postrera.

Evaluation

Due to the delay in the Primera season, bean seed fields were planted late and harvested in September when rainfall was high. About a third of the bean seed production area was rejected because of disease. But the quality of the remaining seed is excellent. PROMESA will offer about 2,000 quintals of high quality bean seed to small farmers in the Apante season.

Plan for Next Quarter

Assist Matagalpa RSA contract with small farmers to produce bean seed in Apante.

IIA1b. Seed Processors Trained

Planned for Third Quarter

Contract and train at least two plants to process bean seed.

Accomplishments

Three processing plants in Matagalpa, Esteli, and Boaco are processing bean seed produced by small farmers under contract with PROMESA and the Matagalpa RSA.

Evaluation

PROMESA introduced a processing and packaging innovation to the plant in Matagalpa, which is drying bean seed to 11 percent humidity and packing it in 10-pound plastic bags. The seed will have longer shelf life and will be more accessible to small farmers who want to purchase small quantities of new varieties.

Plan for Next Quarter

Complete seed processing.

IIA1c. Seed Distribution Systems Improved

Planned for Third Quarter

Design new seed distribution system.

Accomplishments

STTA Robert Aguirre, assisted by a seed specialist from CIAT in Honduras and three INTA seed researchers, investigated the feasibility of selling artesanal seed through farmer-dealer and Internet-based systems. As a result of their assessment, the Matagalpa RSA will establish a pilot farmer-dealer program to sell bean seed in Apante.

Evaluation

PROMESA's assessment of current and potential seed distribution systems is ongoing.

Plan for Next Quarter

Conduct market research on alternative seed distribution systems in Central America. Establish pilot farmer-dealers in Matagalpa and Jinotega.

IIB. Private Investment Increased

Planned for Third Quarter

Evaluate existing investment climate and recommend changes needed to encourage investment in the seed sector.

Accomplishments

Compared the impact of public policy on seed sector investment in different countries in Central America (Table 1). Identified investment constraints created by Nicaragua's seed laws and regulations (Table 2).

Evaluation

Nicaragua's seed industry is small, but it may have significant growth potential based on comparative advantages in production costs and potential competitive advantages in seed marketing. PROMESA's distribution of "tech-packs" to 12,000 victims of Hurricane Mitch and its field demonstrations to promote improved seed varieties are expected to expand the domestic seed market and increase investment incentives in Nicaragua's seed sector. Our technical support to legislators, advocacy for a plant variety protection law to protect intellectual property rights over seed and other plant propagation products, and assistance in communications between seed companies increase access to foreign seed markets.

But to reach its potential, Nicaragua's seed sector will need investment. In the late 1970s, two multinational seed companies produced hybrid maize seed in Nicaragua and exported it to countries in Latin America, Africa, and Asia. Now Nicaragua imports hybrid maize seed. The causes for the decline of Nicaragua's seed industry are complex, but one factor is apparent. Its seed laws protect farmers from private seed companies instead of encouraging private investment¹⁰.

¹⁰ Cargill Technical Services consultant Dr. Lowell Gleason analyzed Nicaragua's seed law and regulations last November, and compared them with similar legislation in other countries in Central America. Gleason recommended changes needed in Nicaragua's seed law to stimulate investment.

High transaction costs create major obstacles to investment and growth. Poor market information, undefined intellectual property rights, and poor contract enforcement mechanisms increase investment costs. PROMESA will reduce investment transaction costs by publishing seed market information and results from seed user surveys, and by maintaining them on a web page.

Plan for Next Quarter

Conduct a study of seed markets, comparative advantages, and competitive advantages in Central America. Results will be available in the first quarter of 2000.

IIB1. Foundation Seed

Planned for Third Quarter

Needs assessment of foundation seed for sesame seed production.

Accomplishments

Identified a source of foundation sesame seed in Guatemala.

Evaluation

Shortly after Hurricane Mitch, the MAG-FOR and INTA redirected their resources for Apante grain production to Nueva Guinea to take advantages of economies of scale in production. The INTA sent its best foundation bean seed stock to Nueva Guinea to be used in a "two-for-one" seed multiplication program. It planned to send extension agents and reallocate budgets to Nueva Guinea, but unfortunately these plans were not fulfilled. Extension agents assigned to Nueva Guinea had insufficient resources to support the two-for-one program. In mid-January, PROMESA technicians visited seed production fields in Nueva Guinea. They concluded that the fields were extremely isolated, with poor seed quality, resulting in high procurement costs. The best foundation bean seed was therefore lost. PROMESA redirected its seed procurement program to Matagalpa and Esteli, where locally-available bean seed and a small quantity of high-quality, imported bean seed was multiplied and hand-selected to become a new source of parent seed for "apta" seed production.

PROMESA proposes to create a new foundation seed system in which private farmers produce foundation seed under contracts with the INTA, and the INTA produces foundation seed based on forward contracts with commercial seed producers.

Plan for Next Quarter

Hold meeting with the INTA's Unidad de Semilla, responsible for producing foundation seed, to define a program for monitoring foundation seed markets. Hold meetings with seed producers - seed producers, distributors, farm associations, PVOs, NGOs - to develop a system for contracting foundation seed production. Identify other areas where INTA and PROMESA can collaborate.

IIC. Seed Processing Capacity Increased

Planned for Third Quarter

Conduct pre-feasibility studies for a potato warehouse in Matagalpa and a seed processing plant in the Occidente.

Accomplishments

Completed and submitted a pre-feasibility study for a potato warehouse in Matagalpa to the UESA. The plan for a seed processing plant in Leon is delayed until the first quarter of 2000, when a study of regional seed markets will be completed.

Evaluation

When PROMESA began last September, seed processing capacity in Nicaragua was already inadequate, particularly in the Occidente region where most commercial seed is produced. After Hurricane Mitch, inadequate bean seed processing capacity constrained PROMESA's bean seed program¹¹. To process seed quickly and reduce our dependence on a few major suppliers, we used three plants to process bean seed produced in Apante and Primera, including two built by UESA, thereby stimulating competition between seed processors.

Plan for Next Quarter

Contract consultant to assess potato warehouse plans. Conduct a regional study of seed markets.

IID. RSAs Promote Seed Companies

Planned for Third Quarter

Conduct seed quality control programs and plant demonstration trials.

Accomplishments

See below.

Evaluation

In the short term, RSAs play an important role in demonstrating new seed varieties and promoting improved seed. In the medium term, they can build new seed processing capacity and lobby on behalf of the private sector for appropriate seed policies. In the long run, they can help attract investment. Project reflows from seed sales will be used to support RSAs conduct the following RSA activities.

- Technical support in seed quality control programs;
- Demonstrations of new seed varieties available from seed companies;
- Bean seed procurement and processing in Matagalpa and Jinotega;
- Importing foundation seed of new sesame varieties.

¹¹ PROMESA contracted with a coffee processing plant in Matagalpa and hired a seed production specialist to supervise bean seed processing operations. The seed cleaning equipment was old and unable to sort seed effectively. Seed had to be hand-selected, a laborious and expensive process. Unexpected rainfall damaged some seed. Processing plant management was inadequate. PROMESA assigned a full-time seed technician to the plant, but progress continued to be slow. The facility could not process seed fast enough to meet the Red Cross seed distribution schedule. PROMESA found alternative seed processing capacity at a newly constructed plant in Boaco, funded by UESA.)

Plan for Next Quarter

Assist members market seed.

IID1. DGS Roles Redefined

Planned for Third Quarter

Review DGS roles and performance. Assess DGS certification fees and penalties.

Accomplishments

In August, the DGS agreed to rely on PROMESA technicians to determine whether bean seed meets DGS standards. Eventually the DGS, in consultation with our technicians, rejected approximately 100 manzanas because of bacterial and viral infestations. It agreed to tag the remaining seed based on samples taken at processing plants, without requiring DGS field inspections. Mutual trust between the DGS and PROMESA sets an important precedent for seed producers. The DGS effectively accredited PROMESA to conduct field inspection, although the accreditation was informal and temporary. The DGS set another important precedent in September by agreeing to tag PROMESA's Tio Canela, a bean variety that is not registered at the DGS¹².

PROMESA's assessment of DGS roles and performance is ongoing. The assessment of DGS fees and penalties began at a regional seed harmonization workshop, but participants failed to reach an agreement.

Evaluation

The DGS needs to redefine its role in the seed industry. Currently, it is a profit center with incentives to raise fees and impose penalties, rather than provide low-cost services¹³. The DGS supervises seed production and guarantees seed quality, thereby becoming a potential defendant in disputes with farmers, rather than providing services like seed testing laboratories, certification training, and settling disputes between farmers and seed companies¹⁴. The DGS role in variety registration should be limited to identifying varieties and determining whether they are new and stable¹⁵. Superiority to other varieties should be irrelevant to the registration process.

The 1998 National Seed Law should have created incentives to develop competitive advantages. Instead, it created obstacles to development. For example, it stipulated that all commercial seed be certified, despite the fact that most farmers are unwilling to pay a premium for certified seed. It stipulated that the DGS must certify all seed despite the fact that it cannot even keep up with current demand for certification.

¹² The DGS continues to refuse to tag Tico, a local variety that lacks genetic uniformity.

¹³ In France the government, in consultation with farmer and seed associations, sets seed certification standards. This system resulted in costly seed and almost no small seed companies.

¹⁴ In the United States, crop improvement associations are generally responsible for certifying crops, determining certification standards, enforcing standards, and issuing labels for different classes of seed. State governments have little interaction with crop improvement associations except to pass laws enabling them to accomplish their objectives.

¹⁵ In Turkey, a reduction in the government's role in the seed sector rejuvenated the industry. Three years after opening seed markets to private competition, Turkish farmers could purchase modern varieties and hybrids never before available to them. Trade in unlabeled seed fell rapidly.

The DGS' current resources are inadequate to certify all commercial seed¹⁶. It should delegate certification authority to qualified organizations. Instead of conducting field inspections, it should accredit qualified technicians to inspect seed production fields and processing plants. The DGS should establish an accreditation program to grant certification authority to other organizations.

The DGS is responsible for regulating the national seed industry, and guaranteeing truth-in-labeling. Prosecuting seed producers who deliberately break seed laws is critical for DGS credibility as a regulatory institution. In Primera, at least two seed producers used forged certification tags. CARE and other NGOs may have purchased the bogus certified seed. PROMESA's Mario Perez, manager of the Leon RSA, discovered the forgery and notified the DGS. The DGS continues to investigate the allegations. This alleged forgery lends urgency to the need for a seed certification accreditation program that would allow the DGS to concentrate on more important roles.

Plan for Next Quarter

A newly-formed CONASEM will conduct a formal assessment of fees and penalties in 2000 (see section IIIA2 below).

IID2 RSAs Increasingly Sustainable

Planned for Third Quarter

Strategic plans for regional seed associations.

Accomplishments

STTA Dr. Joe Cortes conducted strategic planning seminars with two RSAs and a seed producer cooperative in Matagalpa that serves as an RSA. SWOT analyses were conducted (Appendix 2), but RSAs did not define their strategic plans.

Evaluation

RSAs can provide important new services to members, including increased promotional campaigns using mass media, agricultural fairs, and on-farm variety demonstrations to expand seed markets and the use of improved seed. But RSAs must consolidate and mature before they can effectively define and implement strategic plans.

Following the MAG-FOR's suggestion, PROMESA established a revolving seed fund to buy and sell seed and, as specified in PROMESA's January 1999 contract modification governing the use of OFDA funds, established separate accounts to manage the fund. On September 30, dollar and Cordoba accounts at the Banco de Cafe contain \$277,284 of reflows. We will continue to use the fund to help RSAs promote improved seed. On September 13, PROMESA began procuring an estimated \$240,000 of improved bean seed in Matagalpa and Jinotega. About half of it will be marketed through RSAs in a program designed to capitalize and make RSAs sustainable.

¹⁶ PROMESA's bean seed processing experience shows the limits of DGS certification programs. The DGS inspected less than half our seed production area in Apante, but prohibited us from using tags guaranteeing seed quality. We registered 320 manzanas of bean seed production in Primera. The DGS agreed to inspect each field three times, but inspected only 124 manzanas, explaining that the other fields were inaccessible. PROMESA technicians continued inspecting all our production fields.

PROMESA's marketing program increases the size of seed markets and allow seed companies to expand into new market segments. PROMESA sell seeds at breakeven prices to cover procurement, transport, processing, and storage costs. We avoid competing with commercial seed companies by targeting farmers who would not otherwise buy seed.

Plan for Fourth Quarter, 1999

Convince the DGS to limit importation of Guatemalan table potatoes used for seed potatoes. Table potatoes transmit diseases that remain in the soil for years.

IID2a. Leon RSA

Planned for Third Quarter

Conduct seed quality control program.

Accomplishments

The Leon RSA seed quality control program is underway. Field inspections are conducted regularly. One field of sesame seed was rejected by the RSA but not by the DGS, indicating that RSA quality control standards are higher than DGS standards. Seed growers agreed to pay one percent of seed sales for quality control services, but later backtracked. Negotiations continue.

Evaluation

Before PROMESA began in August 1998, seed producers in Leon were led to expect a substantial capital infusion. PROMESA dispelled this illusion in its initial stakeholders' meeting in October 1998. Nevertheless, when the Leon RSA convened its first plenary meeting in July, approximately 30 members enthusiastically discussed the prospect of building a seed processing plant. Subsequently, their enthusiasm declined. Only a handful of members attended subsequent meetings. Three activities are expected to improve morale and rejuvenate the RSA.

- Study of regional seed marketing opportunities (see Appendix 2).
- Comparative advantage study to determine whether Nicaragua should be importing seed or producing it for export.
- Business plan for a RSA seed certification business unit that will determine whether the RSAs' seed quality control program is financially sustainable without an investments in a seed processing plant.

Plan for Next Quarter

Expand the seed quality control program to include laboratory services.

IID2b. Carazo RSA Seedling Quality Control Program

Planned for Third Quarter

Implement seedling quality control program and promotion program.

Accomplishments

Seedling quality control program established and promotion program completed.

Evaluation

The Carazo RSA's 1999 seedling quality control program had three objectives.

1. Stimulate coffee grove and fruit orchard renovations by farmers with less than five manzanas of coffee and fruit trees;
2. Generate income for Carazo RSA members; and
3. Generate income from the Carazo RSA's seedling quality control program.

The program had only limited success because of an unanticipated strong demand for seedlings. Most of the demand came from large coffee producers who did not qualify for the program. They exhausted inventories without using PROMESA's subsidies. The subsidies may have been insufficient to stimulate coffee renovation or new production by small farmers. The program had little effect on the RSA or its members, but may have been successful in establishing the RSA as suppliers of high quality seedlings.

Plan for Next Quarter

PROMESA will evaluate the program before deciding whether to repeat it in 2000. The focus of the Carazo RSA during the remainder of 1999 is on providing technical assistance in seedling production and establishing technical and commercial linkages between Nicaraguan and Costa Rican nurseries.

IID3c. Matagalpa Potato Cooperative Seed Revenues

Planned for Third Quarter

Incorporate bean seed producers into Matagalpa RSA.

Accomplishments

PROMESA and COOPPMAT are multiplying potato mini-tubers and importing foundation seed potatoes. In July, PROMESA contracted three COOPPMAT members to multiply 140,000 mini-tubers purchased from the INTA. They will be harvested in October and replanted in December to produce approximately 2,400 quintals of certified seed potatoes available to small farmers in June 2000. We also contracted eight members to multiply seed potatoes imported from Canada.

PROMESA and COOPPMAT completed a pre-feasibility study for a potato storage warehouse in Matagalpa. UESA approved it as a viable project for potential funding. In October, we will contract a feasibility study and solicit bids for warehouse construction.

Efforts to import true potato seed finally proved successful. Nicaragua's strict phytosanitary forced us to send the seed to the CIP in Peru for testing before importing it into Nicaragua. CIP researcher Dr. Noel Palais decided to send only 60 percent of the donated seed. He said the remainder of the seed is inappropriate for Nicaragua, and offered to return it to Peru. He sent the seed to the INTA, rather than to PROMESA.

Another 230 small farmers in Matagalpa and Esteli became commercial seed producers during the 1999 Primera season. High rainfall caused extensive bean seed losses due to disease, but the remaining 2,000 quintals of high quality bean seed will be ready for the Apante planting season. The DGS agreed to tag the seed as "apta" based on the assessment of PROMESA's seed technicians.

Evaluation

Investments in seed potato multiplication are expected to provide 25 percent of the seed potatoes used in Nicaragua by the end of 2000. The estimated cost of these two programs is \$63,000.

A PROMESA technician mis-communicated the terms of RSA membership for bean seed producers.

Plan for Next Quarter

Redefine Matagalpa RSA membership terms and train technicians to communicate them accurately to current and potential members. Contract consultants to evaluate the design for a potato warehouse in Matagalpa.

Meet with the INTA to define a program to use true potato seed to test and multiply into commercial seed potatoes. If the INTA gives PROMESA part of the seed, we will use it to establish another technical linkage between PROMESA and the INTA, and promote Matagalpa RSA activities.

OBJECTIVE III - SEED POLICY IMPROVED

Planned for Third Quarter

Provide technical assistance to MIFIC and MAG-FOR to advocate for a plant variety protection law.

Plan for Next Quarter

Nicaragua decided to join the World Trade Organizations (WTO) and signed a bilateral intellectual property rights agreement – TRIPS - with the United States. To comply with this agreement, Nicaragua must pass Intellectual Property Rights (IPR) legislation, including a plant variety protection (PVP) law, by January 2000. The PVP law protects the rights of plant breeders, and will result in increased incentives for research and new variety introductions. In the long run, it will attract investment from private companies with proprietary plant genetics.

The PVP law, Nicaragua's membership in UPOV, and its entry into the WTO membership is threatened by misguided efforts to regulate the protection of new varieties and the commercialization of biotechnology products in a single law. Six changes are needed in the current PVP legislation to make it comply with UPOV's 1978 regulations. For example, the first article of the current legislation excludes biotechnology products from IPR protection. If the National Assembly does not eliminate this part of the article, Nicaragua will be excluded from UPOV and forced to develop a patent system for plant varieties, or risk exclusion from the WTO. Sandinista Assemblymen who threaten to submit 70 motions that would make the law non-compliant with UPOV membership requirements.

Accomplishments

On August 18, PROMESA sponsored a press conference for La Prensa, La Tribuna, La Bolsa de Noticias, Radio Corporacion, Radio Nicaragua, and several other radio stations to increase support for the PVP law. Speakers included Director of Agriculture for the Direccion General de Proteccion y Sanidad Agropecuaria Pastor Vilchez and INTA Executive President Luis Osorio. PROMESA distributed information on the benefits of UPOV membership and letters from two seed producer associations endorsing the PVP law. Reporters were particularly interested in

the views of Osorio, whose INTA plant breeders stand to benefit directly from UPOV membership.

Also in August, PROMESA attended an anti-UPOV seminar at the UNA, sponsored by Centro Humbolt and MARENA (Ministerio del Ambiente y Recursos Naturales). The seminar speakers, including two lawyers who consult for the National Assembly's Environmental Protection Commission, were misinformed about the implications of UPOV membership. They confused two important but distinct issues - UPOV membership and biodiversity.

On August 27, PROMESA held a meeting for the Liberal Party members of the Environmental Protection Commission to develop a strategy for introducing the six most critical changes needed in the current legislation. On September 1, we attended the US Embassy's dinner for Congressmen Cass Ballenger and Bill Dellahunt. Nicaraguan assemblymen Eduardo Rizo and Guillermo Selva and representatives of Nicaragua's public seed institution and private seed companies also attended

Due to the combined advocacy activities of PROMESA, MIFIC, and MAG-FOR, the MARENA is no longer opposed to PVP. Dissenters in MARENA are quiescent. Some NGOs continue to oppose PVP, but the primary major opponent continues to be Centro Humbolt. We should take lessons from them in media management, but should not engage them in public debate, which would only increase their visibility and credibility.

The National Assembly passed the PVP law "in principle" in July. The article-by-article debate in the National Assembly has not begun. MIFIC is lobbying for the current legislation, and wants the US Embassy to intervene on Nicaragua's behalf to petition UPOV to allow Nicaragua to enter under the 1978 regulations. PROMESA will encourage RSA members to discuss the importance of PVP with their representatives when the bill enters the Assembly.

Plan for Next Quarter

Assist MIFIC and MAG-FOR write PVP regulations and submit them to the National Assembly before Christmas recess.

IIIA. Seed Laws and Regulations Appropriate

Planned for Third Quarter

Continue to advocate for a review of the National Seed law.

Accomplishments

Summary of differences in seed policies between Central American countries (Table 1) and problems of Nicaragua's seed law (Table 2).

Evaluation

There is no inherent reason why seed industry regulation should be the province of the government. High registration costs and other obstacles caused by public regulation discourage investment in the seed industry. Nicaragua's seed inspection requirements are excessively strict and in some respects intrusive. For example, inspection of research stations is unnecessary, and inspection of processing plants is unproductive. Multinational seed companies importing seed into Nicaragua will remain reluctant to invest in research and production where they must register proprietary foundation seed lines and where regulators can inspect seed facilities without prior notice and dictate how seed must be processed and stored.

The Seed Law attempts to protect farmers from seed companies, requiring new seed companies to prove their competence to the MAG-FOR when they should instead be demonstrating their products to farmers. The government does not need to protect farmers. Instead, it should be farmers, rather than researchers or government officials, who decide what to plant.

PROMESA is helping the MAG-FOR assess the implications of the 1998 National Seed Law on future investment in the seed sector, and its anticipated affects on the national seed industry. PROMESA's comparative assessment of seed laws in Central America (Table 1) illustrates the need for changing the 1998 Seed Law. If the seed law is revised, or a new seed law is adopted, it may have a major impact on investment and industry development. Until appropriate plant variety protection legislation is in place, however, seed companies will continue to be reluctant to invest in Nicaragua. It is important to note that project results in the area of national seed laws and regulations depend on factors beyond PROMESA's control.

Table 1
Comparison of Central American Seed Laws

Guatemala

- Low government regulation encourages direct foreign investment;
- New varieties from government experiment stations is available to private seed breeders;
- Private seed companies actively participate in seed policy definition;
- Accepts seed certification from countries with similar standards;
- Only Central American country exporting large volumes of seed.

Costa Rica

- Flexible regulatory system adapts to changing market conditions;
- Private seed companies actively participate in seed policy definition;

El Salvador

- Seed producers actively participate in seed policy formation;
- Friendly to foreign investment.

Nicaragua

- Seed law concentrates industry control in the MOA.
- Despite natural competitive advantages in seed production, high regulatory costs and restrictions discourage foreign investment.

Plan for Next Quarter

Develop a long term policy program to advocate for changes in the national seed law and regulations.

IIIA1. CONASEM Effective

Planned for Third Quarter

None

Accomplishments

None

Evaluation

PROMESA remains skeptical of a CONASEM dominated by the public sector, but we consider a properly constituted CONASEM to be vital to seed industry development. In May, we convened a group of MAG-FOR officials and representatives of the private seed sector to form a Transitory Executive Committee. This committee was to serve as an example of an effective national seed council, and as a model for the CONASEM. Private sector representatives identified ten shortcomings of the 1998 Seed Law (Table 2). Participants agreed to discuss them at the next committee meeting. But after the initial committee meeting, MAG-FOR officials decline to reconvene it.

The need for an organization to represent the interests of the private seed sector remains, but the National Assembly's decision to give the public sector a nine out of twelve votes in the CONASEM effectively diminishes its effectiveness as a forum for the private sector. Until the CONASEM is properly constituted with majority representation by the private sector, we consider RSAs to be better institutional advocates for the private seed sector. To effectively promote growth in the seed sector, a technical committee made up of private sector representatives needs to provide direction and set priorities for the CONASEM, and a Secretary should conduct its day-to-day affairs.

Plan for Next Quarter

Develop a long-term advocacy plan to establish CONASEM with majority representation by the private seed sector.

Table 2

Seed Company Objections to the 1998 Seed Law and Regulations

1. High cost and low convenience of seed certification services;
2. Registration fees for seed research stations, new varieties, seed producers, imports, exports, processing plants, distributors, trademarks, trademarks, and bags are set without consulting seed producer associations;
3. The MAG-FOR usually considers performance data only from INTA, the public research agency, to determine whether new varieties can be registered;
4. Seed com
5. Seed companies must register foundation seed even if it is used exclusively for research;
6. MAG-FOR sets fines, imposes penalties, and adjudicates disputes, and retains service fees;
7. CONASEM nine members from public institutions, two from farm organizations, but only one seedsman.

Other Weaknesses of the 1998 Seed Law

1. Defines a seed industry controlled by the national government;
2. MAG-FOR defines seed production methods and decides which lots can be sold;
3. Requires all commercial seed to be certified;
4. MAG-FOR sets certification standards;
5. Requires seed research facilities be registered and meet MAG-FOR standards;
6. MAG-FOR controls seed company trademarks;
7. MAG-FOR determines who can produce seed and how much can be produced;
8. MAG-FOR has seed law enforcement powers;
9. MAG-FOR can inspect seed operations for any reason;
10. MAG-FOR enforces levels of seed germination and quality;
11. MAG-FOR sets and retains fees for regulatory services.

Problems with the 1998 Seed Regulations

1. Reinforces MAG-FOR control over Nicaragua's seed industry;
2. Defines requirements for commercial seed warehouses;
3. Authorizes the MAG-FOR to inspect seed research programs;
4. Requires plant breeders to share their results with the MOA;
5. Defines protocols for evaluating new varieties;
6. Requires seed producers to demonstrate technical knowledge, equipment, and finances;
7. Requires compliance with certification standards even for non-certified seed;
8. MAG-FOR decides which growers can buy basic and registered seed;
9. Specifies equipment required for processing plants;
10. Specifies warehouse size, personnel, and stacking requirements;
11. Requires registration of research quantities of seed in MOA;
12. Requires exported seed to meet certification standards;
13. Requires seed dealers submit weekly sales and inventory reports to MOA;
14. Requires seed inventory to be tested at end of the sales season.

IIIA2. Regional Harmonization of Seed Laws and Regulations

Planned for Third Quarter

Continue participating in regional seed law harmonization program.

Evaluation

To establish itself as a major seed producer in Central America, Nicaragua needs access to regional seed markets and private investment. Differences in national seed laws in Central America are a major obstacle to seed industry growth and investment. Differences in seed certification standards, variety protection programs, and trade regulations fragment and isolate Central American seed markets.

Accomplishments

PROMESA and the MAG-FOR have made significant progress toward harmonizing the seed policy environment (see Table XX below) by participating in the World Bank's regional program to harmonize seed laws and regulations in Central America. If harmonization agreements are implemented, varieties and hybrids registered and protected in one country in Central America can be registered and protected in the others, and certified seed can be sold without restriction throughout the region. Harmonization of seed registration, certification and phytosanitary requirements will increase access to new seed varieties, improve the accessibility of the Nicaraguan seed markets to foreign suppliers, and increase its attractiveness to potential investors.

Table 3

Status of Seed Law and Regulation Harmonization in Central America

Seed laws and regulations standardized in 1999

- certification requirements;
- certification tags;
- phytosanitary requirements.

Reduced costs of seed regulations

- New variety "validation" trials reduced from two to one crop cycle;
- New variety registration can be based on PCCMA seed industry trial data.

UPOV-compliant PVP legislation

- Panama joined UPOV in April;
- Draft PVP legislation in all Central American countries;
- Nicaragua approves draft PVP legislation "in general," and will debated it article-by-article in the National Assembly.

Regional Seed Producer Associations

- RSAs offer quality control programs in anticipation of becoming accredited seed certification agencies.

Plan for Next Quarter

PROMESA will continue to encourage seed industry leaders from the private and public sectors to participate in meetings to harmonize seed laws and regulations in the region. The final meeting of the first phase of seed harmonization will end at a meeting in Nicaragua in early October. A subsequent summary and planning meeting may take place in December. The second phase, if funded by the World Bank, will begin in 2000. The focus of phase two will be on harmonizing regulations for agricultural biotechnology products.

Develop a long term plan to implement regional seed law harmonization agreements.

HIGHLIGHTS OF OCTOBER-DECEMBER 1999

1. Import and multiply black bean seed to export beans to Mexico.
2. Seed potato harvest. (Yields of Kennabek seed potatoes are expected to be low due to high rainfall and disease losses.)
3. Field days at maize, beans, and sorghum demonstration trials.
4. Bean seed marketed in 10-pund bags.
5. Feasibility of FAT (Fondo para Asistencia Tecnica) funding for field technicians responsible for bean and potato seed production;
6. Farm survey to measure changes in seed markets and use of improved seed.

**Appendix 1
Parcelas Demostrativas Maíz para Postrera de 1999.**

Nombre del Productor	Organización que da asist. técnica	Departamento	Localidad	Finca	Area	Fecha Siembra
Federico Baltodano	Particular	León	Pozoltega		2 mz	25/08/99
	UPANIC	Jalapa			2 mz	Agosto
	UPANIC	Jalapa			2 mz	Agosto
	UPANIC	Jalapa			2 mz	Confirmar siembra
	UPANIC	Matagalpa	Sébaco	Finca Sta. Isabel	2 mz	28/09/99
Anastacio Valle	CARE	Matagalpa	Dario	El Hato	1 mz.	27/08/99
Marlon Flores	CARE	Matagalpa	Dario	El Hato	1 mz.	27/08/99
Adrian Ruiz	CARE	Matagalpa	Dario	El Malinche	1 mz.	28/08/99.
Manuel Castrillo	CARE	Matagalpa	Dario	Las Delicias	1 mz.	28/08/99.
	CIPRES	Esteli	Pueblo Nuevo		2 mz	28/09/99
Wilfredo Somarriba	CARE	Matagalpa	San Ramón	El Horno	2 mz	15 – 30 Ag.
-	PRODES	RAAS	Nueva Guinea		4 mz	Agosto
UNA	Técnicos UNA	Managua	Tipitapa	El plantel	4 mz.	Agosto

Parcelas Demostrativas de Frijol para Postrera de 1999.

Nombre del Productor	Organización que da asist. técnica	Departamento	Localidad	Finca	Area	Fecha de Siembra
Alvaro Pérez	UPANIC	Carazo	Masatepe		5 mz	12
Evenor Perez	UPANIC	Nueva Segovia	Jalapa		3 mz	11 Octubre
	CARE	Matagalpa	San Ramón		1 mz	7 de Septiembre
	CARE	Matagalpa	San Dionisio		1 mz	7 de Septiembre
	CARE	Matagalpa	Matagalpa Sur		1 mz	7 de Septiembre
	CARE	Matagalpa	Sébaco		1 mz	7 de Septiembre

Parcelas Demostrativas de Sorgo para Postrera de 1999.

Nombre del Productor	Organización que da asist. técnica	Departamento	Localidad	Finca	Area	Fecha de Siembra
1. Yader Real	UPANIC	Chinandega	San Juan de Las Pencas		5 mz	31/08/99
2. Nubia Baca	UPANIC	Chinandega	San Juan de Las Pencas		5 mz	31/08/99
2. Leonardo Ayala	UPANIC	Chinandega	Filadelfia		5 mz	29/08/99
3. Sandra A. Hernandez	UPANIC	Chinandega	Filadelfia		5 mz	29/08/99
4. Adrian R. Mejia	UPANIC	Chinandega	San Juan de las Pencas		5 mz	31/08/99
6. Vicente Salmeron	UPANIC	Chinandega	San Juan de las Pencas		5 mz	31/08/99
7. Arturo Caballero	UPANIC	Chinandega	San Juan de las Pencas		5 mz	31/08/99
8. Francisco Tuckler	UPANIC	Chinandega	San Juan de las Pencas		5 mz	31/08/99
9. Orontes Lacayo	Particular	León	Minas las Marias	Aguas Calientes	3 mz	28/08/99
10. Carlos Montealegre Deshon	Particular	Chinandega	Calle los Millonarios		2 mz	3/09/99

Appendix 2

FODA Analysis Asociación Regional de Semillas ASORESUR

Misión

Organizar y representar a productores y comercializadores de semilla botánicas y vegetativas de la región sur del país, ofreciendo servicios requeridos por ellos en función de asegurar la oferta de materiales de alta calidad que redunden en mejorar la producción y productividad nacional.

Visión

Que APROSUR sea institucionalmente reconocida local, regional y nacional como el ente integrador de todos los productores y comercializadores de semilla de alta calidad de la Región Sur.

Fortalezas Internas Significativas.

1. Estar legalmente constituida.
2. Relación estable con organismos nacionales e internacionales.
3. Junta Directiva
4. Localización central de la zona.
5. Miembros participativos con experiencia y conocimientos técnicos.
6. Apoyo de la Asociación de cafetaleros de Masatepe y de PROMESA.

Debilidades Internas Significativas.

1. Generación de recursos insuficientes
2. Pocos socios (23).
3. Falta de infraestructura propia.
4. Reconocimiento insuficiente.
5. Desarrollo de nuevos programas.
6. Falta de un programa de certificación.
7. Falta de estudios de mercados.
8. Falta de información actualizada a los productores.
9. Falta de capacitación e investigación.

Oportunidades Externas y Internas

1. Muchas ONGs y proyectos especiales dispuestos ayudar el desarrollo agrícola mediante la utilización de semilla.
2. Existen más productores como socios potenciales.
3. No existen organismos similares en la zona.
4. El desarrollo de proyectos de protección del medio ambiente.
5. Existe demanda de semilla de calidad en el mercado.
6. Interés de cafetaleros en ampliar sus zonas de producción.

Amenazas Externas y Internas

1. Falta de políticas de desarrollo agrícola.
2. Competencia desleal por precios del sector público.
3. Crisis financiera en la zona.
4. Reducción de fronteras agrícolas.

Factores Externos Primarios Que Están Impactando La Asociación. Los Ejemplos Pueden Ser Ingresos, Tecnología, Etc.

1. Programas establecidos sin participación de APROSUR.
2. Acceso insuficiente a nueva tecnología.
3. Apoyo oficial no existente./ Programas dirigidos a otras zonas.
4. Renovación constante de las áreas de café.

Para Que La Asociación Sea Exitosa ¿Cuales Son Las Areas Claves En Las Que Debemos Enfocarnos

1. Desarrollar programa de Control de Calidad.
2. Desarrollar un programa de capacitación y comunicación.
3. Establecer relaciones con más instituciones públicas y privadas relacionadas con la actividad de APROSUR.
4. Dirección ejecutiva eficaz y eficiente.
5. Formular, gestionar e implementar proyectos de interés para los socios.
6. Desarrollar programas de comercialización donde se suscriban contratos de compraventa.
7. Generar ingresos propios.

Asumiendo Un Plan Horizontal De Tres A Cinco Años ¿Cuales Son Las Suposiciones Básicas Relacionadas A Nuestro Negocio O Ambiente Operativo En Las Que Tenemos Que Estar De Acuerdo.

1. Socios continúan con su espíritu participativo.
2. Junta Directiva continúe con el programa establecido y fortalezcan los cuadros de dirección gremial y empresarial.
3. PROMESA/AID y otras agencias provean apoyo.
4. Incremento de sus miembros.
5. Socios serán conscientes de que la asociación no es un fin sino un medio.
6. La Ley de semilla y sus reglamentos sean modificados para acreditar a APROSUR para llevar a cabo la certificación.

**Analysis FODA
Asociacion Regional de Semillas
COOPPMAT**

Misión

La cooperativa representa y apoya a sus asociados sin distinción para desarrollar una producción y comercialización organizada que mejore su nivel de vida garantizando servicios claves tales como asistencia técnica, capacitación, gestión de crédito y comercialización, acceso a nuevos materiales e información actualizada asegurando su auto-sostenibilidad de la cooperativa en base a su propia marca de calidad, el incremento paulatino de socios y una organización sólida.

Visión

Que la cooperativa sea reconocida regional y nacionalmente como empresa autosostenible productora de semilla de papa y frijol de calidad garantizada así como proveedor reconocido de papa de consumo de Primera calidad.

Fortalezas Internas Significativas

1. Excelente personal (nivel de gestión).
2. Apoyo de socios.
3. Confianza en la cooperativa.
4. Buen liderazgo de la Junta Directiva y Gerencia.
5. Excelentes líderes comunales.
6. Buena organización.
7. Condiciones agroecológicas favorables.
8. Organización legal y funcional.

Debilidades Internas Significativas

1. Dispersión de los socios : 70 socios legales
2. 140 faltan de asociarlos legalmente.
3. Falta de apoyo estatal
4. Falta de programa de comunicación.
5. Falta de crédito para la producción y mercadeo.
6. Falta de transporte para servicios al asociado.
7. Falta de infraestructura y equipos.
8. Insumos a destiempo.
9. Falta de cursos de capacitación técnica y organizativa.
10. Falta de información sobre nuevas variedades.
11. Falta de promoción de uso de semilla mejorada.
12. Falta de asistencia técnica.

Oportunidades Externas y Internas

1. Contactos establecidos con PROMESA/AID para formar una empresa de semilla en papa y frijoles.
2. No hay empresas dedicadas a la producción de semilla de papa y frijol.
3. Disponibilidad de otros organismos para el apoyo.
4. Exportación de semilla de papa y semilla de frijol.
5. Continuar con los proyectos actuales.
6. Aumentar la producción con el uso de semilla.
7. Beneficiar a productores nacionales con semilla de calidad.

Amenazas Externas y Internas

1. Precios no estables.
2. Competencia relativa y tradición del productor.
3. Introducción de semilla ilegal.
4. Falta de un mercadeo estable.
5. Incumplimiento de obligaciones de algunos socios.
6. Inseguridad de crédito bancario.
7. Importaciones a precios más bajos de papa comercial.
8. Leyes de semilla inapropiada.
9. Plagas y enfermedades.

Factores Externos Primarios Que Están Impactando La Asociación. Los Ejemplos Pueden Ser Ingresos, Tecnología, Etc.

1. Importación de papa.
2. Costos de insumos.
3. Costo del dinero y devaluación.
4. Tecnología apropiada.
5. Política macroeconómica.
6. Competencia con semilla común e importaciones.
7. Falta de materiales nuevos.
8. Inestabilidad en la demanda.

Para Que La Asociación Sea Exitosa ¿Cuales Son Las Areas Claves En Las Que Debemos Enfocarnos

1. Capacitar a los productores de semilla.
2. Contar con infraestructura de almacenamiento.
3. Selección de los campos para la producción de semilla.
4. Asegurar créditos bancarios.
5. Asegurar asistencia técnica y consecución de insumos.
6. Asegurar transporte.
7. Desarrollo de capacidad organizativa y administrativa.
8. Aranceles y restricción fitosanitario a la importación.
9. Promover mayor participación de socios.
10. Establecer comunicación fluida entre cooperativa y socios.
11. Incrementar eficiencia de socios.
12. Monitoriar mercados nacionales y regionales.
13. Producción y comercialización de semilla de papa, frijol y maíz.

14. Establecer un programa de mercadeo y publicidad.
15. Un programa de control de calidad.
16. Aumento con el número de socios.

Asumiendo Un Plan Horizontal De Tres A Cinco Años ¿Cuales Son Las Suposiciones Básicas Relacionadas A Nuestro Negocio O Ambiente Operativo En Las Que Tenemos Que Estar De Acuerdo.

1. PROMESA/AID continúe apoyo por tres años.
2. Organismos continúen apoyando.
3. Que exista crédito bancario.
4. La administración actual debe seguir.
5. Continuar la diversificación.
6. Mantener el espíritu de trabajo en equipo.
7. Estar dispuesto a cambiar si las condiciones lo amerizan.
8. Establecimiento de reuniones regulares de socios.
9. Continuación de la oficina central.

Appendix 3 Terms Of Reference for Regional Seed Market Study

Nicaragua has a history of seed production including seed production by multinational companies for international distribution 25 years ago. There is some indication that the isolation, climate, soils, and availability of irrigation water in some parts of the country might provide Nicaragua with a comparative advantage in some types of seed production. However, the economic and political turmoil combined with isolation of the country over the last 20 years drove the private sector seed production into other Central American countries. The central question Nicaragua must face now is whether the investment made in the seed industry in other countries - training, plant, equipment, and marketing - has affected the natural comparative advantage that the country once had. The reliance on centrally planned and operated government production and control of the seed industry has reduced the competitiveness of Nicaragua seed, the extent of the change requires documentation.

The purpose of the study being proposed is to conduct a market assessment of the prices, quantities, grades, and types of seed in commerce in Nicaragua and Central America. This information will then be used to conduct a comparative and competitive advantage analysis of the seed industry of Nicaragua. This study will use information available from government and private information sources, market surveys, and other techniques to identify and document the trade flows into and out of Nicaragua and the other Central American economies for the following seed products: maize, beans, rice, sorghum, soybeans, peanuts, sesame, and potatoes. These trade flows will help to identify the extent of the market in the region, where the seed is being produced, how much is domestically produced, and border prices. The study will then be integrated into a comparative/competitive advantage study of Nicaragua and Central America seed.

SPECIFIC ACTIVITIES

The Market Specialist will carry out the following activities and tasks:

- Analyze the markets for commercial seed in Nicaragua to determine the sources, quantity, quality, and prices of maize, bean, rice, sorghum, soybeans, peanuts, potato, and sesame seed produced domestically and imported.
- Use a combination of trade data, industry data, and interviews with seed sector participants to determine the types and volumes of seed (see basic grain and oilseed crops listed above) produced and traded in Central America during the past 5 years, including imported seed.
- Estimate the annual rates of growth of each national seed markets during the next five years.
- Identify obstacles to market growth, domestic production, imports and exports.
- Break down the annual seed demand for each of the major basic grain and oilseed crops into seasonal demand.
- Identify the major seed distribution systems currently used in each of the national markets in Central America, and estimate the volume of seed flowing through each distribution system.
- Recommend distribution channels to use and/or develop to sell improved seed to small and medium size farmers in Nicaragua.

- Determine the price of imported seed for basic grain and oilseed crops in each of the countries in Central America.
- Assist an agricultural economist in developing crop budgets for each basic grain and oilseed crop in the major seed production areas of Nicaragua for the seed crops listed above.
- Assist an agricultural economist in developing crop budgets for seed crops in the primary seed producing countries in Central America.
- Assist an agricultural economist in conducting a comparative/competitive advantage study to assess the current and potential competitiveness of seed produced in Nicaragua.
- Assess Nicaragua's potential competitive advantages in seed production and recommend the types and quantities of seed that can be produced in Nicaragua, and those more competitively produced elsewhere.

PROMESA COUNTERPART

The primary technical counterpart will be Marcio Perez who will provide day to day operating and technical input and control. The management (principal) counterpart will be King Bash, Chief of Party. Weekly oral reports to the principal counterpart are required.

DELIVERABLES

1. Market study on the seed market in Nicaragua for basic grain and oilseed crops, including a discussion of prices, quantities, and qualities of seed demanded.
2. Crop budgets for seed production in Nicaragua, verified by interviews with seed producers.
3. Crop budgets for seed production in the primary seed production areas in other Central American countries, developed from secondary sources of information.
4. Comparative/competitive advantage assessment of Nicaraguan seed production, with recommendations on seed sector investment in Nicaragua.

QUALIFICATIONS

- At least ten years of experience in conducting market surveys and price analyses for management decision-making
- Experience analyzing and comparing production costs and determining competitive advantages.
- Fluent Spanish with the ability to understand technical economic data in Spanish.
- Desired: experience in market research on agricultural commodities.
- Desired: the ability to draft reports in both English and Spanish.