



*Japan International Cooperation Agency (JICA)
Comunidad y Planeamiento (COPLANEA)*

Final Report

Study

“Ex-post Evaluation”.

*Project title: Improvement of Vegetable Production
Technology for Small-Scale Farmers.*

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1. INTRODUCTION

The objective of the following report is to describe the results of the evaluation of the Project “Improvement of Vegetable Production Technology for Small-Scale Farmers”. The consulting company COMUNIDAD Y PLANEAMIENTO (COPLANEA) was selected to perform the task. The main evaluation team was integrated by the following professionals:

Dr. Víctor Jacinto Flecha, Expert in Project Coordination, Social Research, Cooperation Project Assessment and Monitoring. JICA interlocutor.

Ing. Agr. José Félix Bareiro, Horticulture Expert with a large experience working with the Agriculture Ministry.

Econ. Oscar Carvalho, Expert in Socio-economic Research, Team Coordination, Economic Analysis, Cooperation Projects Assessment and Monitoring.

Lic. Marcelo Mancuello, Expert in Project Assessment and Monitoring and Team Work Coordination.

The team of people mention above has taken the responsibility of conducting an ex-post evaluation of the project “Improvement of Vegetable Production Technology for Small-Scale Farmers”, from two different perspectives, its impact and its sustainability throughout time.

To accomplish the objectives of this consult, first there will be a short description of the scope of the study, followed by a general revision of the project and methods that were used. Following the data recollection the results will be presented with an assessment. Finally, after conclusions are drawn some recommendations and learnt lessons will be exposing for their future use in new projects.

2. SCOPE OF THE EVALUATION STUDY

Just as it is state in the methodology of the Project Cycle Management (PCM)¹, the Ex-post Evaluation of a project must focus in two main criteria: Its impact and its sustainability.

Regarding the impact of the activities the evaluation process is looking to answer the following questions:

- In which extend has the project reached its main objective after the culmination of its activities? (Final Evaluation)
- Were there any unexpected positive or negative effects?
- Which factors contributed to the positive and negative impacts?

Regarding the sustainability the guide lines were looking to answer the following questions:

- In which way has the related organization been able to maintain the activities and services described in the project?
- Since the end of the assistance have the results of the project been maintained?
- Regarding the project’s Sustainability which factors have contributed or inhibit the results?

The information and data recollection on these two criteria were lately analyzed from the perspective of these main aspects.

¹ Introduction to Project Cycle Management. GLM Institute. September 2004.

- Public Policy
- Technological Aspects
- Environmental Aspects
- Socio-cultural Aspects
- Institutional and Management Aspects
- Economical and Financial Aspects

COPLANEA has used different sources to elaborate this report. Some are direct, as the MAG's employees that work with the IAN and DEAG. CETAPAR farmers and leaders from the five different Departments in which the project took place. Some are indirect, as MAG's documents and market information from DAMA and SIMA.

The conceptual frame work from this study has the evaluation as a tool for the verification of results and management. This will allow adjustments so the projects accomplishments can lead to the achievement of its general objectives.

The main focus of this evaluation is to present a data analysis that shows the interrelations and the construction of objectives, variable and indicators that will allow an efficient assessment of the activities and their impact. As well as the impact the project had have in the direct beneficiaries, and the positive and negatives impacts that were not expected.

3. GENERAL OVERVIEW OF THE PROJECT

The Project for the Improvement of Vegetable Production Technology for Small-Scale Farmers in Paraguay was implemented from April 1997 to March 2002 with the aid of the technical cooperation of the Japanese Government. The project was looking to expand and improve the vegetables growing techniques used by small-scale farmers.

The project's goal was "to develop vegetables growing techniques, at the National Agronomic Institute, adapted to the production systems of the small-scale farmers from" (NAI or IAN). These techniques were outspread to farmer leaders from five different departments (Central, Cordillera, Paraguari, Caaguazú and Alto Paraná). The main headquarter of the project was located at the National Agronomic Institute (IAN), another headquarter was located at the Extension Service Direction (DEAG) , both depending on the Agriculture Ministry. Project of Agricultural and Livestock Technology center in Paraguay (CETAPAR) was also supporting the project's activities.

4. EVALUATION METHODS

The Evaluation Methods that were used, were basically the same described in the proposal for this evaluation, as describe in the following lines:

- ◆ Surveys to farmers: 46 surveys to farmers were conducted in all the departments that are part of the project.
- ◆ Verification of the techniques used in the growing of vegetables: Orchard were visited in all the departments that are a part of the project.

- ◆ Focus Groups: Several focus groups were done in all the different departments, except for Caaguazú because of the current cotton season, nonetheless surveys were done to farmers of the region.
- ◆ Interviews: Several directives from the IAN, DEAG and CETAPAR were interviewed. As well as DEAG supervisor, IAN researchers, an extension worker and a Departmental Secretary of Agriculture.
- ◆ Secondary Data: Relevant data for this study were consulted.
- ◆ Previous documents: A series of previous documents were consulted, specially the projects updates and reports, as well as the final report to see the real improvements and results of the project after its conclusion.

4.1. Target Population

The direct beneficiaries of the project was the population that lives in the area where the study was done. Employees of the IAN, DEAG and CETAPAR and others were also involved in the development of the project, beside the consulting team in charge of its execution.

4.2. Data Gathering/ collection

The data collection was done through primary and secondary sources, such as:

Primary Sources: The study was based on data collected by qualitative techniques such as direct interviews to Directives and workers of the IAN, the DEAG and the CETAPAR. In addition the direct interviews surveys to farmers involved in the project were done.

Secondary Sources: Several documents were consulted, such as; intermediate evaluation reports, final reports, MAG's reports and other statistic data available – Census and Agronomic Statistics, Supply Department of Asuncion's City Hall (DAMA), Agricultural Market Information Service (SIMA- MAG) and reports of other projects that used similar practices and technology.

4.3. Data Analysis:

All the interviews to directives and workers of the governmental organizations were transcript and later contrasted with the information provided by the focus groups. The focus groups were done in a number of locations, for example: Cerro Porteño de Eusebio Ayala Company (Cordillera), The Agrarian Extension Offices in the city of Paraguari (Paraguari) and Itá (Central) as well as in the Santo Domingo de Mingá Guazú Company (Alto Paraná).

To complement the information 4846 farmers, from the five departments, had to answer a survey. The results were processed by SPSS (Statistical Package for Social Science) software. Every one of these sources was used to have a wider view of the reach of the project in the following years of its conclusion to do a more in depth evaluation.

5. EVALUATION RESULTS

5.1. Impact

5.1.1. Public Policy Aspects

One of the initial impacts of the project was that for the first time the MAG was developing a policy related to the research and sharing of technology for horticulture. However, once the project was finished, there has been a weakening in human resources and supplies of its structure. Now with the new administration since August 2003 there has been a new impulse, from the presidency, to include vegetable growing in the new National Plan of "Family Agriculture".

Although the project has shown the convenience of vegetables growing for small-scale farmers. Proving it could be an important instrument in the fight against poverty, the MAG has not substantially modify its production policies, and still relies on two or three traditional crops. Regarding the mechanized agriculture: soybeans and wheat; and for the small farmers: cotton. Because of this a large number of technicians are assigned to work with cotton crops.

5.1.2. Environmental Aspects

Not one of the project's beneficiaries that were consulted reported a negative opinion regarding any environmental issues. It has been verified that all the techniques used during the execution of the project were environment friendly, such as: The proper use of pesticides according to the pest or disease, the substitution of pollutant pesticides for the selective ones. These practices are still being done after the project is over.

According to the surveys 91,3% of the farmers said that they had reduce the pesticide use and that they had learnt new methods to identify pests that helped them to opt for the right pesticide in each case, which leads to a better care of the environment. It is also important to state that red label pesticides, which are considered to be very toxic and dangerous, are no longer being used.

Nevertheless it is important to consider that the agronomists consulted by this project had said that although the farmers are more aware of the danger to their health and the environment from the use of certain pesticides, sometimes for economic reasons they had to use them because of their lower price. This is one of the reasons it would be good to promote Pest Integrated Management (PIM) practices.

5.1.3. Institutional and Management Aspects

There have been no significant changes in the structure of the institutions involved in the project. Even though the DEAG has a lot of budgeted problems, because of the multiple problems it has to attend. Part of the problem is the highly centralized structure of the institution, but this has not been a reason to try to change it by working with other governmental or departmental offices to decentralize their scope of action; which has been a very successful cooperation in other areas such as Education and Health.

Another important fact is that CETAPAR has reoriented its tasks, giving less weight to the promotion attempts of the model orchard and workshops. It is true that the CETAPAR was initially considered as an institution with secondary bonds to the project. But at the beginning of the project's implementation CETAPAR played a very important role as one of the headquarters for the workshops, helping the project to reach a higher level of impact.

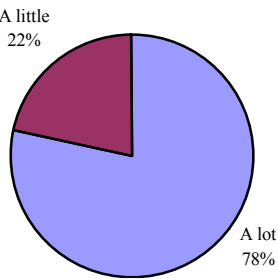
Also, the fact that CETAPAR had transferred to the Agricultural Ministry the intellectual property of the supercetarpar tomato cultivar and the Luna Yguazú melon cultivar is a great attempt to help the project's sustainability. On the other hand the Ministry had found in the seed production an important source of income. It is expect to add Gs. 200.000.000 (two hundred millions guaranies) this year.

5.1.4. Economical and Fanatical Aspects

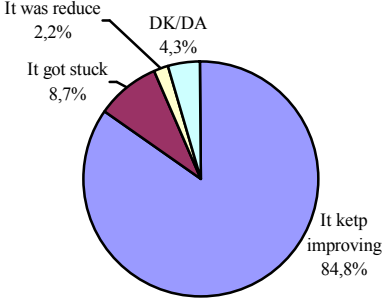
Family Economy of the Small-scale Farmer

According to the pulls to farmers' results, as the following diagrams show, the project had has a significant impact in the farmers' incomes. Not only during its implementation but afterwards. It is important to highlight that all the farmers, interviewed during this study, declared that their main family income comes from vegetables' sales.

¿Has your family income improved with the project asitensase?

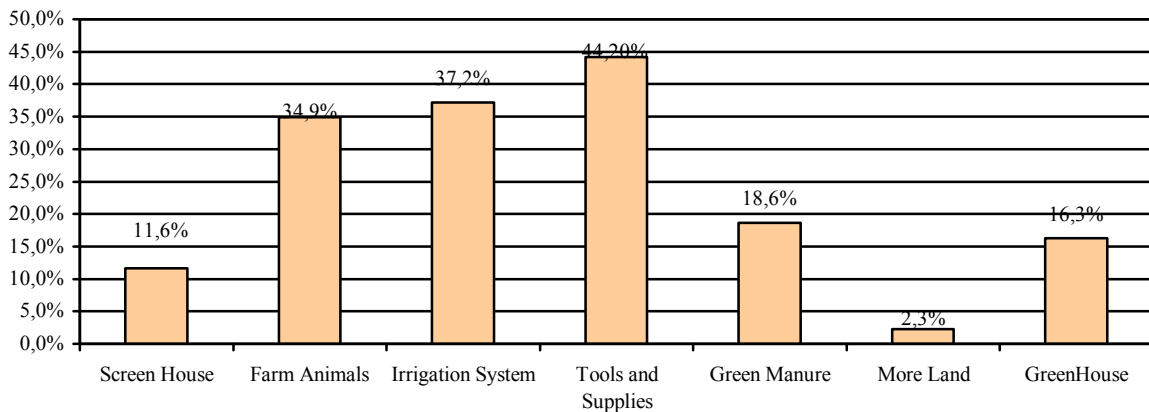


After the Project was over. How did your income behave?



This income incensement has allowed 95, 6 % of the farmers to do some investments in their farms in order to improve their productivity. Among this investments the most common are: An irrigation system, in 37,2% of the cases; screen house nets, in 11,6% of the cases; the purchase of green manure, in 18,6% of the cases; tools and agricultural implements, in 44,2%. In some cases there were larger investments including the acquisition of more land or the construction of greenhouses (16,3%). It is also a fact that 34,9% of the farmers have broaden their production by buying farm animals.

Investments done by farmer with the vegetables's sale income



There has also been an improvement in the farmers' homes. According to the surveys a 100% of the farmers had improve their houses' infrastructure with the incomes from the vegetables sale. The range of the improvements is very wide, it goes from the construction materials that are use, to building more rooms, to eating and dressing habits, some even built a new house.

Most of the farmers had said that because their income had improved their children school work also had improved. This can be seen in difference areas, from attendance, to better school materials, and in some cases their children are now able to attend secondary school.

5.1.5. Technological Issues

The project had a significant impact at the technological level during its implementation, mainly because a lot of field research was done in horticulture, that was later share with the farmers.

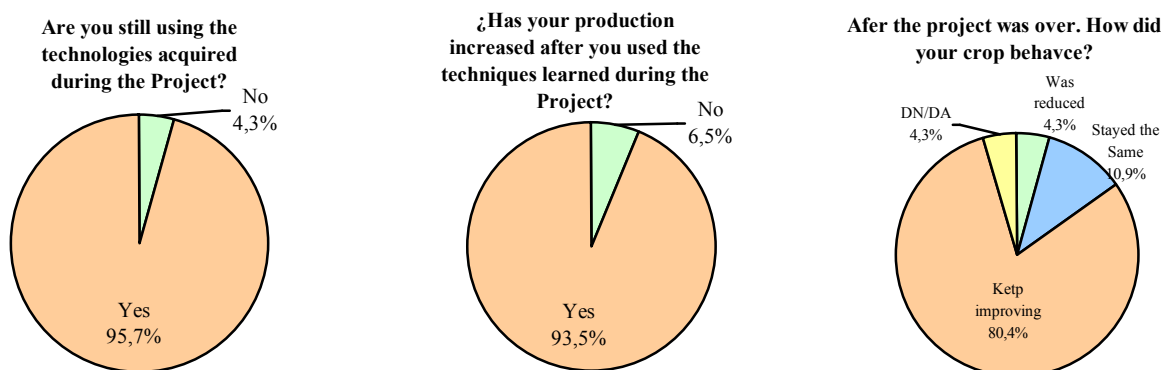
The introduction of new varieties of strawberries, the identification of the main insect pests and organism that cause diseases, as well as the way of controlling them. The innovations in the field of plantlets production, fertilizing research and recommendations, irrigation, soil protection and crops weather protection, as well as the melon's pruning and growing techniques, were some of the activities done by the project that had a strong and lasting impact in the vegetables growing techniques.

After the project was finished the Agricultural Ministry launched the Yasy Mimbí melon variety, that was obtained by breeding and selections designed and done during the project. Despite being an important technological development it found two main difficulties to achieve the expected result: a) The develop material apparently has not yet reach the sufficient genetic stability. There are segregations that produce uniformity in the size and consistency of the fruit, which causes the farmers to complain. now the IAN is conducting new researches looking to diminish this problem. b) The MAG must restructure its way of managing itself (maybe with a more business orientated approach) in order to develop the capacity and commercial readiness to produce the seed in a larger scale, that will allow cost to be reduce, and can not apply marketing techniques to promote the product.

After the wrapping up the project there has been no plans that guarantee new technological achievements in the short and intermediate time.

5.1.6. Socio-cultural Aspects

There has been a high socio-cultural impact in the areas where the project was executed. Some examples are the changes in the growing techniques, farmers had stopped using traditional ways of growing and changing them for the ones learnt in the workshops and “model orchards”, which meant an improvement in their production as shown in the following charts



It has been verified that the most successful way of spraying the techniques was thru farmers’ organizations. And the most effective cases were those in which the farmers had an individual instruction of the new techniques.

5.2. Sustainability

5.2.1. Public Policy Issues

There are several structural factors in the MAG that clogged the project to its full implementation, because its sustainability was menaced by the following:

- The rotation of professionals that worked in the project,
- Low incomes for the people involved in the project,
- Insufficient budged prevision
- The promotion of the technology and new varieties was limited by the budged restrictions from the DEAG.
- The project was not linked to other projects that also dealt with technical assistance to small-scale farmers to have a wider scope and effectiveness, for example PRODESAL or TECNIFICACION.

On the other hand the lack of coordination for the execution of the National Plan of Production for the horticulture was an obstacle in the sustainability of the research and promotion attempts. Horticulture is not one of the MAG’s priorities, at the moment, there is no short or long term plans or guide lines from the government, actually researches (PORDESAL, TECNIFICACIÓN, etc) are done without any coordination with the MAG’s initiatives or institutions.

5.2.2. Environmental Aspects

Even though there have been some negative opinions regarding the environmental impact of the project, it has been demonstrated that the techniques implemented during the project, that were environmental friendly, such as: the reduction in the use of pesticide, substitution of polluting pesticides for the selective kind. The only setback is that this techniques might cease to be use in time.

It has come to the attention of this evaluation that despite the farmers' confirmation that they choose the proper pesticide for each insect pest or disease, the costs of the low toxicity pesticides is much higher than the high toxicity pesticides. The attempt to lower costs in the production could lead to a dangerous use of these supplies that can harm the environmental sustainability of the project.

5.2.3. Institutional and Management Issues

According to the final evaluation the project had a number of deficiencies regarding the carrying out of the budgeted in sectors responsible for different objectives, the main ones were the following:

- Insufficient budgeted assignment, by the Paraguayan counterpart.
- The rotation of the staff, which reduced the impact of the trainings courses. However the knowledge exchanged made that a lot of people that was not originally assigned to the project started to participate in its initiatives.

National Agronomic Institute (IAN)

The partners for the project in this institution received the training course by experts in Japan. Nonetheless, as the final report indicates, several of this partners did not have the necessary experience to perform some of the research procedures in their initial state as well as in its implementation. Currently without the Japanese experts the ability to carry on with the researches independently is affected. The IAN has not created a favorable scenario, salary wise and organization wise, that can help develop a highly specialize staff that would launch new research projects. A lot of professionals with a PhD degree had retired from the MAG so they could look for better job opportunities in the private field. Obviously this scenario is less than favorable for the improvements that this projects had accomplished.

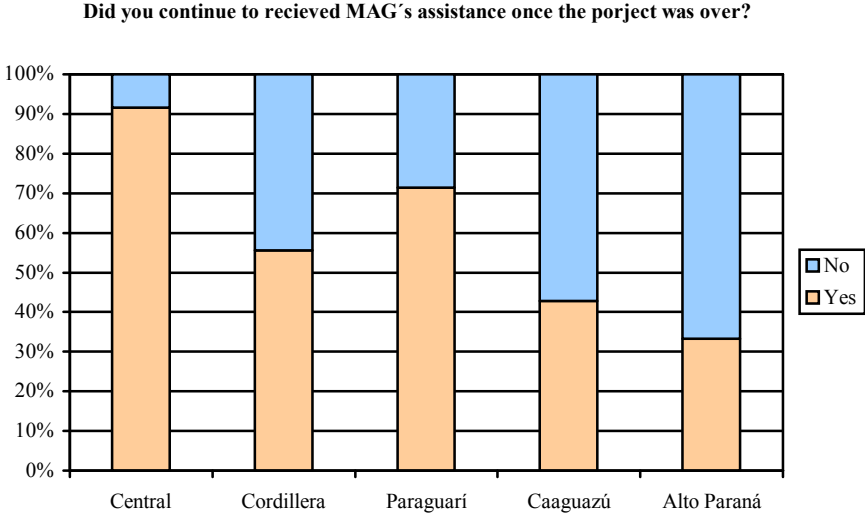
In contrast there is a very strong positive impact from the project. According to some MAG's staff, thanks to the development of new varieties there is an important new seed market, that gave the Ministry an significant source of incomes that helps compensate the cooperation funding. For this year the MAG is expecting an income of approximate Gs. 200.000.000 from the seeds.

Extension Service (DEAG)

As it was state in the final report the DEAG had an uncertain future, because the possibility that the extension service might pass to private companies. In fact the Program for supporting the small-scale cotton farmers (PRODESAL) that is being develop by the MAG is fund by the BID, which is not but a practical experience of this idea. Sadly in the layouts of the program were not included activities oriented to promote the results of the Vegetable's production technique improvement project. On the contrary PRODESAL could have been a strong

promotional tool. The DEAG also did not take advantage of the governmental decentralization indicatives such as the District Agricultural Secretaries.

The following chart shows that right now the farmers from the areas where the project was put into practice had differences in the technical assistances they received. In the case of Alto Paraná, there is a very low post project assistance, because even though CETAPAR continued to assist the small farmers regarding the crops included in the project, this assistance was not considered “official”, since the CETAPAR is not a MAG institution. At the same time this area registered the lower post project assistance from MAG’s institutions because the farmers are disperse all over the area and commercial horticulture is not a priority for the DEAG agencies in the region.



1. The intensity of the technical assistance in horticulture is absolutely linked to the importance it has for the regional DEAG, because there is not a national policy on the matter.
2. It is in the area of Caaguazú, where the lowest percentages of post project assistance to farmers were found. It also the only place where two cases of farmers dropping the techniques were registered. One because of the lack of assistance and the other because he changed to Ka’a He’e crop. This is also the region where the technical assistance was done more to individual farmers rather than to committees.
3. On the other hand, Alto Paraná, another department with low assistance percentages after the project was finished, shows a high number of farmers that still uses the new techniques (see Annex N°3). This is mainly because the assistance was done through farmers comities. This reinsures the importance of the social capital as a competition factor.

It is important to highlight as a sustainability factor that the Program PGP 14, funded by JIBC is using the results from this project to promote its “Teaching Plots” which are highly effective in the promotion of their techniques in the areas where they are developing the program. This can be considered a major success regarding the sustainability of the project.

Technological Agricultural Center in Paraguay (CETAPAR)

When redefining its institutional objectives CETAPAR had not included the development of new varieties and technologies for horticulture. Instead it is focusing on extensive agriculture

(for ex. Soybeans). Nonetheless this does not exclude CETAPAR as a source of support when it comes to organize workshops and providing technical support in all that regards the varieties they had develop in the pass such as; the SuperCetrapar (tomato) and Luna Yguazú (melons).

It is very important to emphasize that the impact of the project in Alto Paraná was in large part thanks to the work CETAPRA did promoting the project and the varieties.

Farmers' Associations

As it has been state before the social capital is an important factor in the success of a Project and its continuity. However, during this evaluation it has been noticed that several of the committees that were beneficiated by the project still lack institutional strength, which limits them to take on more complex productive plans independently.

5.2.4. Budged and Financial Aspects

Budged Assignment

Regarding the financial sustainability of the project, it is clear that the Japanese partner paid a good deal of the expenses to ensure the normal development of the project. Once the project was over the funding should have been absorbed by the Paraguayan partner, that had to assign incomes to replace the foreign founding.

Nonetheless, during the implementation of the project some budged restrictions can be found, and these restrictions have not yet been overcome. One year after the project was finished a small drop in the budged was detected. See Table N°1

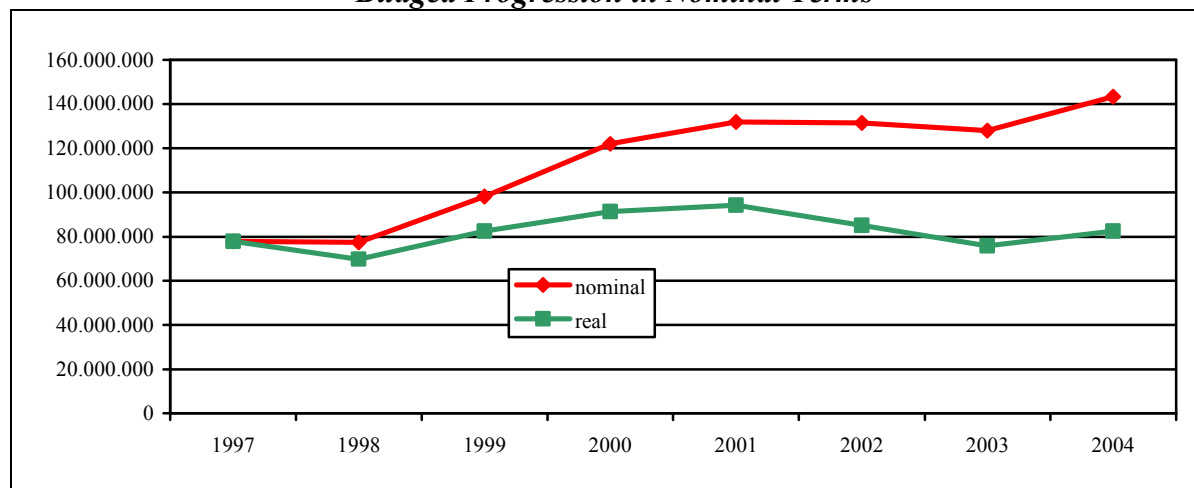
Table N° 1: Budged evolution (1997- 2004).

year	Total Budged for IAN, DEAG Nominal (In Gs)	Var. %	General Economic Prices Growths %	Total Budged for IAN, DEAG Real² (In Gs)
1997	77.894.000	-	4,2	77.894.000
1998	77.542.000	-0,5%	11	69.857.658
1999	98.174.000	26,6%	7,1	82.581.741
2000	122.011.000	24,3%	12,4	91.310.396
2001	132.000.000	8,2%	4,8	94.261.400
2002	131.575.000	-0,3%	10,3	85.183.959
2003	128.003.000	-2,7%	9,3	75.820.114
2004	143.343.000	12,0%	2,8	82.593.840

Looking at this chart, as well as the one bellow, one can appreciate that the project budged has grown in nominal terms in a very unsubstantial way. And in fact, if the numbers are put trough a deflation calculus, it is shown that the real budged has almost not been increase at all.

² Calculated based on data provided by The Central Back of Paraguay.

Budged Progression in Nominal Terms



Although the sale of mother plants and seeds is an important complementary source of incomes, the prices are still below the production costs. The “subsidy” clearly makes this income not sustainable in the long run. The MAG defends this course of actions saying that this production has a social role rather than an economic one. But the MAG should develop a clear policy on the commercialization of mother plants and seeds that also allowed its income to be a real source of economic recourses that can help the sustainability and funding of different investments in the area.

The small group of small scale farmers that work with horticulture, is not among the ones under the poverty line. Which is why is important for the MAG to decide the significance subsidizing this crops, or redefine the way the subsidy is going to be provide. Since the farmers’ economical situation has improve they are now in a position to buy their supplies for their real price, the MAG could use that income to develop other research initiatives.

Supplies

The supplies used for the research in the project were the ones left by the Japanese experts. However according to the interviews with the project’s technicians the supplies are almost over or expiring, and the project does not have assigned the necessary amount of money for the supplies reposition. This is obviously a factor that puts in risk the sustainability of the project.

Currently the seeds demand for the three varieties (tomato, strawberries and hybrid melon) had an important potential. In the tomato (supercetapar) case the IAN is producing 5 kilos of seed a year, which can be used in 80 has. Considering that at the moment around 1.700 has are growing tomatoes, it is safe to say that there is a market for this variety seeds.

Regarding the “Yasy Mymbi” melon variety, the IAN right now is producing around 280.000 seeds, which is use for practically 60% of the hybrid melon producers, who represent only 15% (90 has) of the national melon production (600 has). The other 85% (510 has) of the production does not grow hybrid varieties. Which means that the Ian’s seeds only cover 8% of the national production, leaving room for expansion.

The platelet's production for the Dover strawberry is practically covering its demand in 95% of the cases, however there is a chance of extending the strawberry production, which would expand the seeds demand.

Equipments

The equipments situations is very similar to their situation at the end of the project. Almost all the equipments are in a normal state of use.

How ever, some equipments that do not have an specific function in the project and could also be use in other sections, had been used for other purposes and in same cases, even reassign. This could influence negatively in the sustainability of the project. Some examples are the reassignment of vehicles and computers.

Human Resources Directly Assigned to the Project

According with the final report a considerable number of the technicians that initially were assigned to the project left during its execution. Once the project was finish this tendency did not change, 50% of the technicians had left the project. Some left to have new positions in the MAG, some were looking for better job opportunities with higher salaries else where or ask for their retirement. It is clear that this high level of rotation affected specially the preparation of the staff to maintain the project working at a same level of efficiency. However as the following table shows this rotation helped to impulse the project's accomplishment in other areas, such as the regional government, diversification projects and private initiatives.

Personal List and their Current Situation in the Project

Specialty Areas		Name and Last name	Outside the project	In the project	Current Technician
Plant breeding	1	Ing. Luis Raidán	1		Secretary of Agriculture in the Cordillera Government
	2	Rosamary Santacruz	1		Studying a PHD in Horticulture in Brazil
	3	Agron. Carlos Alberto Hueste		1	
	4	Ing. Edgar Amarilla	1		Industrialized Coco factory in San Roque González, Dpto. de Paraguari.
	5	Ing. Delia Martínez	1		Program for the Technification and diversification of the small scale farmer's production . MAG/BID, Asunción.
Horticulture	6	Ing. Blás Benicio Valiente	1		Private company that provides technical assistance to small scale farmers. Prodesal-MAG/BID, R.I.3 Corrales, Dpto. de Caaguazú.
	7	Ing. Oscar Guillén		1	
	8	Agron. Virgilio Delgado		1	
	9	Ing. Elena Ayala	1		Agricultural Investigation Department (DIA-MAG)
Diseases Control	10	Ing. Gregorio Bozzano		1	
	11	Ing. Maria T. Ayala		1	

Specialty Areas		Name and Last name	Outside the project	In the project	Current Technician
Plague Control	12	Ing. Maria R de López	1		Agricultural Investigation Department (DIA-MAG)
	13	Ing. Myriam Trabucco de Evers		1	
	14	Agron. Carlos Palacios		1	
Promotion	15	Ing. Gustavo Cuenca	1		Secretary of Agriculture in the Pdte. Hayes government
	16	Ing. Jorge Peña	1		Private consulter in Alto Paraná
	17	Juana Caballero		1	
	18	BTA José Galeano	1		
Totals			10	8	
Percentages			55%	45%	

A valid diagnosis of the MAG are the indications from the “Law for the reform of the agricultural and livestock research” called the Paraguayan Institute of Agriculture and Livestock Technology (IPTA) which summarizes the main institutional problems that affect the MAG regarding the research field.

“The main limitations for a good functioning of these institutions are: (i) An bureaucratic structures that does not allow for readiness, effectiveness and independence in the administrative management; (ii) the lack of an integrated system for planning, executing and evaluating the projects, that allows an improvement in the decision making process; (iii) a large part of the budgeted is designated to everyday expenses and a very small amount goes to what it is consider operational expenses; (iv) the dilate in the budgeted execution and (v) low salaries for the research staff, with no hierarchy that reflects the staff status and a lack of financial encouragement for a complete dedication to research and promotion.”³

5.2.5. Technical Aspects

Taking into account that the MAG, as well as the farmers, were considered a beneficiary of the project, the sustainability of the technological improvements are also analyzed from this perspective.

As to the MAG it is clear that once the project was over all its objectives, activities and guidelines suffered a weakening. This seems directly linked to the departure of the Japanese experts team. Apparently the enthusiasm and experience that these experts bring to the project with the treading “in situs” are lost once they leave. In addition to this situation the desertion of national technicians contributed to the slowing down of the project’s research and promotion activities.

The sustainability of the project’s results is more noticeable among the farmers. They are still applying all the new techniques, as well as the project’s new developments, they have learned. In some cases this knowledge was passed to new farmers in part thanks to the Teaching Plots project supported by Project PGP 14.

³ Government Program - State Reform. Created by Paraguayan Institute of Agriculture and Livestock Technology (IPTA) as and autarky inside the MAG.

5.2.6. Socio-cultural Issues

The surveys as well as the focus groups had shown that the new techniques and the new varieties are still a main source of income for the farmers that were involved in the project. It has been verified that the incomes from the vegetables are a large part of the families' incomes and had allowed mayor house improvements as well as changes in eating habits and provide better schooling opportunities for the children.

It is true that all the improvements in the houses or lands are strongly linked to the farmers' interests. In most of the cases the family entire income comes from the vegetables sale, which makes the home improvement, as well as the rest, a matter of priorities from each farmer. In general most of the farmers had done some improvements.

5.3. Impact and Sustainability Factors Analysis

5.3.1. Driving Factors

Impact

- ✓ Since there were no previous experiences in research and promotion of vegetable growing techniques each one of the project's achievements are very significant.
- ✓ The material that were chosen, specially the strawberry variety Dover, had a very good acceptance among the farmers and the market.
- ✓ The techniques developed for identification and pests control as well as diseases helped the farmers solve one of their main problems.

Sustainability

- ✓ The promotion of the new techniques was mainly focused on farmers that had some previous experience on horticulture, to guarantee the better use of the resources. This proved to be a good call, as the techniques are still being use now that the technical assistance is less frequent.
- ✓ The fact that there are farmer's associations, although some are not very strong, they had a real commitment to the project, that helped in the promotion of the workshops and techniques. This gave an better stability to the use of the new techniques learned from the project.

5.3.2. Inhibiting Factors

Regarding the Impact

- ✓ The centralization of the administrative structure of the MAG, although the DEAG has several agencies in the countryside, does not help a efficient project management.
- ✓ The MAG's bureaucracy.
- ✓ The lack of combine work from the various MAG institutions (IAN and DEAG) involved in the project, affected negatively the project's results, not only during its execution, but afterwards as well.

Regarding the Sustainability

- ✓ The lower budget and its imprecision did not help to maintain the project's researches and activities.
- ✓ The rotation of the people that was trained for the project puts in a jeopardy the continuity of the project's researches and promotion of their results.

6. CONCLUSIONS

The main conclusions based on the data gathered from the evaluation are the following:

6.1. Policy Issues

6.1.1. Impact

Regarding the project's impact on the public policies, it is a fact that the MAG does not have a clear policy on horticulture. Although during the project's implementation it has been prove that research can develop new varieties, such as de Dover strawberry, that gives new production alternatives and new sources of income to the farmers; the Ministry has not yet incorporate the horticulture as an important part of its institutional policies.

6.1.2. Sustainability

It is obvious that the low interest in horticulture in the public policies affects the sustainability of the project's results. This leave less resources not only for the research, but also for the promotion of the results.

On the other hand the highly centralized MAG's structure does not allow the development new way management, more efficient that can ensure the sustainability of the project's results. This situation could be different if a decentralized policy is strengthen, it would allow regional governments and city halls to assume a more active role as creators of local developing initiatives.

6.2. Environmental Issues

6.2.1. Impact

There is no record of negative opinions regarding environmental issues in this project. However there is a need to look for alternative natural or homemade pesticides to replace the industrial ones because their high price.

6.2.2. Sustainability

Although the project focused on environmental friendly practices and that the country is increasingly developing a genuine concern for environmental issues, the continuance of this practices is not guarantee because of economic issues. The red label pesticides are more close in price to what the farmers can afford, and there is not a lot of government control to what it is been use in the farms

6.3. Institutional and Management Aspects

6.3.1 Impact

Regarding an impact in the institutional or management aspect of the project there are no real evidence of any changes. There is no significant change in the institutions involved in the project.

6.3.2 Sustainability

The MAG's current structure had a lot of difficulties that leads to reduced capacity to address all the framers' needs and concerns. Its centralized structure is one of the main reasons for this situation. There are several legislatives attempts to revert this, among them a Decentralization Law. This Law is trying to give autonomy from the Agronomic Ministry to some departments such as "Plant Protection", which was recently approved. The law gives autarky to the role, granting more freedom and efficiency to the plant protection control.

At the moment there are some other Laws being debated in the Parliament that are trying to do the same thing with the research, seeds control and extension services. if this laws are approved they will immediately modify the MAG's structure. Even though with these changes happening the projects result would not suffer significant modifications.

Another important aspect, to insurance the sustainability of the project, that was observed in this area is the active participation of farmer associations and organizations. It is a fact that the new techniques had a better acceptance and a larger reach, when farmer's associations were in charge of their diffusion. This experience should be taken into consideration by future projects.

6.4 Financial and Budged Aspects

6.4.1 Impact

During the project implementation its expenses were mainly covered by the Japanese counterpart. As the country is facing a severe economical crisis the amount of money assigned to maintain the projects results is been reduced. As a positive mark it can be said that the productions of plantlets and seeds as a result of the project's researches are sources of incomes that could help to finance the project. Sustainability

The lack of economic resources has lead to:

- Some researchers original assigned to the project leaving it before it was complete. They left looking for better payments in other departments of the Ministry or other institutions. If the authorities understood the importance of the vegetable growing as a source of income to small scale farmers, and also as a generator of incomes to the country by the exportation of some crops, they could provide the technicians and researcher with a better qualification and a fare payment for their work. This would contribute to the development of an horticulture specialist carrier.
- The unit in charge of executing the Project does not have the means to pay for the supplies necessities to keep the project working. Which largely reduces the possibility to continue the assistance of the project's activities. If the administrative organization

were less bureaucratic the recourses generated by the sale of plantlets, seeds, services and other goods would have a faster return to the project's beneficiaries.

6.5 Technical Aspects

6.5.1 Impact

It is important to highlight the impact of the selection and promotion of the Dover strawberry variety. As well as the instruction farmers received to identify pests and diseases and the methods to control them. The innovations in the plantlets production, also in the fertilization and irrigation techniques, the soil covering, crops protection from weather factors, the pruning of the melon.

The efforts and resources used to obtain the new varieties of tomato and melon had an significant impact on the farmers and in the market, but they did not reach the same levels of the strawberry production.

Another important impact was the production of teaching material that had a large diffusion among the farmers and the technical assistance centers. At the moment this material are out of stock and had a great demand from farmers' association and cooperatives.

6.5.2 Sustainability

The fact that the farmers directly evolved in the project are till using the techniques developed and promoted by the projects it an important indicator of its sustainability. However it is important to remember that horticulture is very dynamic and its technology and its market. Because of this it is very imperative to look for new technologies and varieties.

6.6 Socio-cultural Issues

6.6.1 Impact

The techniques are still helping the farmers, that were involved in the project, to develop a higher competitiveness of their products, which increases their incomes. These incomes are a mayor part of the family entire incomes. It has allowed the families to improve their quality of life by enlarging their houses, changing eating habits and getting better schooling opportunities. In numerous cases the extra money was used to pay for the children studies at primary and secondary level.

6.6.2 Sustainability

In the cases where the technology was share through farmers associations the techniques are still in use. The knowledge is pass from neighbor to neighbor.

7. RECOMENDATIONS

The main objective of this evaluation was to identify the major aspects to be taken into account in future horticulture cooperation projects. Therefore it is important to any project to present interdisciplinary strategies as well as cooperative decisions making. All projects, not only for horticulture, but for any agronomic or productive field , should always consider its results' competitiveness, sustainability and equity.

7.1. Policy Aspects

When addressing agricultural policies regarding horticulture it is essential to focus on the crops' competitiveness. Consequently the recommendation of political actions drawn by the Sub-sartorial Agenda of the Plan Paraguay in the Competitive World Map area main contribution in this area⁴. The main suggested actions were: encourage

- To do a detailed marketing research, division by areas and production planning.
- To implement a national vegetables production and trade program.
- To encourage the consolidation and web functioning of the plant control systems⁵.
- To Strengthen the customs controls regarding the entrance of foreign products to the country .
- Revise the taxes inside the MERCOSUR.
- To support and improve the institutions in charge of technical and financial assistance, as well as research.
- To push the approval of Laws that support the easy access to electrical power and communication in production areas.

Only with a holistic approach, such as the one proposed, a sustainable national horticulture policy can be implemented.

On the other hand the MAG must take into consideration the following recommendations:

- ◆ The Agriculture Ministry should pay extra attention to the factors that guaranteed the project's sustainability, such as:
 - To enlarge the budgeted for research projects in general, and specially on those that focuses on horticulture.
 - To use the existent infrastructure to generate new research initiatives.

Regarding the impact :

- ◆ To focus the researches in exportation crops, since it has been prove that these are the ones that had an immediate impact on the small-scale farmers' incomes.
- ◆ To ensure a lager impact of the project's results their promotion is very important. To improve it the decentralization of the DEAG is essential, if some of the responsibility were given the cities and departmental governments the promotion would work better. There are also some other ministerial institutions that can help promoting the project and its results, such as; PODESAL, TECNIFICACION and Non governmental organizations that work in the field.

⁴ MAG/IICA/Agricultural and Life sock Commission from the House of Representatives, 2003.

⁵ It is important to sep in mind at this point that the National Plant Protection Service (SENAVE) was already been approved by the congress as an autarky that nucleates other former MAG's Departments such as, Plant Protection Department, Seed Department, Tobacco and Cotton Control Office. It is expected that this new institution would be more efficient in the generation and management of resources in order to have a better plant protection system and policies

To any project in this field it is important to focus the promotion of the results on farmers associations and not on individual farmers. This will assure that more people will receive the new knowledge as a chain effect.

The Finca Escuela (Teaching plots) experience⁶ showed that their methods are very efficient to promote the knowledge developed on any the project. It is vital to combine this kind of efforts with others such as PRODESAL, Thecnification and Diversification of horticulture products, the Project for the Reinforcement of the Agricultural Sector II (PGP 14), Full Technical Assistance Program (PATI), Family Agriculture Program (PRODAF), Communitarian Rural Investments (IRC) and others. It would be interesting if projects like this work with other institutions linked to small-scale farmers to promote their results in a more efficient way. This would allow the project to reaching more farmers and organizations. Some of the organizations that can help are: The Community Development Program (PORDECO/SAS/BM), regional Cooperatives and NGOs that work in the area.

The training of technicians in Japan had an positive change on their vision and motivation, the same happen with the technicians that were trained in CETAPAR. It is not the same to learn in theory than experiencing in the practice, especially procedures like the substrate preparation, plant sowing in pots, the pruning and guiding of plants, pests and diseases identification, machines and tools use, etc. All these experiences were new to the Paraguayan technicians, who next to learning them in Japan were able to share them to farmers here with the help of the CETAPAR.

7.2.Environmental Aspects

The world is more and more looking for environmental friendly growing techniques, and this can be also seen in Paraguay. The country is increasingly developing a genuine concern for environmental issues, programs that promote no tilling techniques, the use of green manure an others.

The project lacked a focus on organic production and the protection of the crops with natural product. This could help guide the horticulture production to markets that look for organic products, on a national and MERCOSUR level, with the increscent on the prices this will bring.

7.3. Institutional and Management Issues

Regarding the institutional aspects of the project the model used by the Law Project that creates the IPTA (Paraguayan Institute of Agriculture and Livestock Technology) is essential to achieve an lasting impact and sustainability. In fact, the project includes a law proposal that creates an autarkic institution that will incorporate all the research and promotion services that work with agronomic, cattle or forestry issues. This will bring a better management of resources, with a higher specialization and the use of advance technology, that will contribute to improved and continue the development of the sector. It is expected that with a more organized and independent structure as the one presented by the IPTA, the bureaucracy that

⁶The Finca Escuela project has chosen some areas to be receive technical assistance as pilot crop, where farmers organized in groups called "committees" receive the instructions and the pass them to the other farmers. Its main objective is to improve the life quality of the framers' families by increasing their incomes and their products competitiveness. The productive unit must be a diverse one, with crops, farm animals, and some forestry.

slows research projects will be reduce. It would be also important to the project to consider giving more participation to the local governments in all that regard extension services.

A very important element to assure the impact and sustainability of the project was the work done with the farmers associations. This is way future project should emphasize in the institutional straighten of the farmer associations. Not only at the committee level, but also looking to create and support joint efforts that will carry on new productive projects and initiatives from the farmers.

7.4. Financial and budgeted Aspects

The financial sustainability of this kind of projects must be a crucial element of the projects' design. The financial aid shows the institution's commitment to the accomplishment of the project's objectives. This project's experience has shown that without an institutional commitment from the organization that is implementing the project, its impact will not be as effective and powerful.

On the other hand, the idea of developing new ways of managing the resources, including the autarky of some institutions, would have an positive impact in the way financial resources are administered .

The human resources should be taken into consideration more carefully, especially after the rotation among the trained professionals. This affects the attempts to form highly qualified professional in different areas with the aid of the cooperation experts. The government should prevent this from happening by creating human resources policies that look to provide stability and the continuance of professional that are dedicated to research areas. This could be accomplish by providing motivation thru recognition and better compensation.

7.5. Technical Aspects

The horticulture's production improvement in Paraguay depends on the optimization of the usage of the natural resources --such as soil, water and weather-- and of the accesses of the small farmers to supplies and modern equipment --such as fertilizers, seeds, pesticides, machines, tools, irrigation, screen houses, plastic benches, settlings pots, germination substrates - that would allow farmers to adopt a more competitive technology.

A National Program of Production and Commercialisation of Horticulture Products should focus on researching techniques and technologies that fits the reality of the Paraguayans small farmers and also on the immediate transfer of those technologies, as well as an specialize technical assistance.

This program should reach as many variety of crops as possible. Which could be easily selected by considering the volume of commercialised products and their worth. Following this criteria the most important horticulture's crops in Paraguayan market are: tomato, carrot, potato, chilli, onion, corn, sweet potato, cucurbitaceous – such as watermelon, melon, pumpkin, cucumbers—cabbage and strawberry.

Obviously, the improvement of the horticulture production is link to other aspects already explained as the institutional policy of assignation of resources from the budgeted.

The research and the shearing of its results should be approached with more emphasis in the organic production of horticulture crops and the development of natural techniques of pests and diseases control.

It is also recommended to reprint the teaching material about horticulture develop by this projects given its success. It would be essential to sustain the project's efforts to distribute this material among farmers' association and cooperatives.

7.6. Socio-cultural Aspects

This project has proved that it can become an important generator of income for small farmers, therefore, it is an unprecedented opportunity for improving the quality of life of the target population. The combination of this kind of project with others that approach other aspects of the underdevelopment problem would be ideal to a more efficient fight against poverty.

8. LESSONS LEARNT

The knowledge and techniques acquired by the farmers are a new tool that can be used for development of other crops. The straightening of the farmer associations (social capital) that were involved in the project is essential to ensure any project sustainability and impact.

It is crucial to any cooperation project to work with government institutions and with specific policies for the area, which can be translate in a commitment to fund and follow the work of the country's counterpart designated for the project.

As a learnt lesson from the prior statement it is important to say that the training courses to local staff was of vital importance. New practices must be introduce to reduce the rotation or desertion of professional from the project, because this jeopardizes its sustainability. The professionals involved in the project should have a long term commitment during and after the project is over. The human resources along with the counterpart institution should make a commitment, before the project is started, to work for the institution at least the same amount of time the cooperators employed in the training courses.

The design of future projects should take into account the actions and developments of systemic components and a global view, that will assure that all the factors that are involved lead to the success of the project

ANNEXS

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Anexo N° 1

PDMe para el Proyecto de mejoramiento de la tecnología de producción de hortalizas para pequeños productores en el Paraguay

Resumen del proyecto	Indicadores verificables	Medios de Verificación	Condiciones externas
<p>Meta superior</p> <ol style="list-style-type: none"> Se aumenta el ingreso por el cultivo de hortalizas de los pequeños productores de la zona de objeto del proyecto Se aumenta la producción y la calidad de hortalizas de la zona de objeto del proyecto 	<ol style="list-style-type: none"> <ol style="list-style-type: none"> Aumenta el volumen de ingreso de hortalizas nacionales (frutilla, melón, tomate) al mercado central de abasto por mes y por año Se introduce la clasificación de productos para mercado central de abasto y los productos de pequeños productores ganan la alta clasificación Se aumenta refacciones de las casas de pequeños productores 	<ol style="list-style-type: none"> Estadística de volumen de ingreso de hortalizas en el Mercado Central de Abasto Encuesta a los mayoristas del Mercado Central de Abasto Investigación en las zonas de producción agrícola 	<ol style="list-style-type: none"> No se retrocede la política agropecuaria del gobierno central y departamental (asistencia a los pequeños productores) No ocurren fenómenos inesperados tales como prolongada anomalía del clima o aparición de enfermedades y plagas inesperadas Se mejoran las condiciones de caminos y se facilita el transporte de productos al mercado
<p>Meta del proyecto</p> <p>Se desarrollan las técnicas de cultivo de hortalizas para pequeños productores en el Instituto Agronómico Nacional (IAN), y la misma se utilizan entre los pequeños productores líderes de la zona</p>	<ol style="list-style-type: none"> Se mejora el conocimiento y la capacidad de todos los contrapartes sobre su especialidad Se desarrollan nuevas técnicas en IAN. Número de productores líderes que utilizan nuevas técnicas desarrolladas 	<ol style="list-style-type: none"> <ol style="list-style-type: none"> Encuestas a los contrapartes y expertos Informes de estudios e investigaciones, boletines técnicos y tesis de investigaciones Informe sobre resultados del proyecto Encuesta a los contrapartes de extensión Encuesta a los productores 	<ol style="list-style-type: none"> Se establece y se mantiene una estrecha cooperación entre IANG, DEAG y CETAPAR Se mantiene el nivel de técnicas y actividades del IAN y DEAG Se mantiene la vinculación entre proyecto, instituciones relacionadas y cooperativas de productores No cambia drásticamente la situación del comercio internacional Asignación suficiente de presupuesto
<p>Resultados:</p> <ol style="list-style-type: none"> Se seleccionan o se desarrollan las variedades Se desarrollan técnicas adecuadas de cultivo de hortalizas Se determina la ocurrencia y ecología de las principales plagas y enfermedades, además se desarrollan las técnicas de su control Las técnicas y conocimientos desarrollados por el proyecto son transferidas a los extensionistas y pequeños productores líderes 	<ol style="list-style-type: none"> Informe sobre selección y desarrollo de variedades de los tres rubros (frutilla, melón, tomate) Manuales técnicos sobre: (1) Técnicas de producción estable mediante la utilización de instalaciones sencillas y materiales, y nuevo sistema de cultivo; (2) Técnicas de fertilización y riego; (3) Técnicas de despacho de producto de alta calidad mediante mejoramiento de técnicas de cosecha y procesamiento <ol style="list-style-type: none"> Numero de estudios sobre determinación de aparición de plagas Se reduce los daños causado por 	<ol style="list-style-type: none"> Informes sobre actividades del proyecto. Informe sobre resultados del proyecto. Registro de ensayo. Encuesta a los contrapartes y expertos. <ol style="list-style-type: none"> <ol style="list-style-type: none"> Informes de estudio e investigaciones, boletines técnicos y tesis de investigaciones. Informe sobre resultado del proyecto. Informe de actividades de curso móvil. 	<ol style="list-style-type: none"> No se deteriora la situación financiera de IAN y DEAG. Se realiza una cooperación efectiva entre IAN, DEAG y CETAPAR. Permanecía de los contrapartes. Permanecía de los extensionistas capacitados en la DEAG. Los pequeños productores lideren de las zonas de objetos del proyecto adoptan las técnicas desarrolladas

Resumen del proyecto	Indicadores verificables	Medios de Verificación	Condiciones externas
	<p>enfermedades y plagas en menos de la mitad mediante la utilización de las técnicas de control desarrolladas mediante en el proyecto.</p> <p>3.3 Manuales técnicos sobre control de enfermedades y plagas.</p> <p>4.1 Los extencionistas de la DEAG están capacitados sobre técnicas desarrolladas.</p> <p>4.2 Los productores de la comunidad de parcela de validación utilizan las técnicas desarrolladas.</p>	<p>4.2 Informe de</p> <p>4.3 realización de cursos.</p>	
<p>Actividades</p> <p>1 Selección de variedades superiores y mejoramientos geneticos</p> <p>1.1 Realizar colección e introducción de recursos geneticos y seleccionar las variedades promisorias y materiales de mejoramiento genetico.</p> <p>1.2 Establecer las técnicas de prueba de carácter de alta calidad y resistencias a las enfermedades.</p> <p>1.3 Evaluar las mudas y sencillas, además desarrollar las técnicas de multiplicación.</p> <p>1.4 Desarrollar las variedades y líneas superiores..</p> <p>1.5 Estudiar la adaptabilidad de las variedades desarrolladas para Paraguay.</p> <p>2 Técnicas adecuadas de cultivo.</p> <p>2.1 Desarrollar las técnicas de producción estable mediante la utilización de instalaciones sencillas y materiales.</p> <p>2.2 Desarrollar las técnicas de aumento de calidad y rendimiento a través de mejoramientos de fertilización y riego</p> <p>2.3 Desarrollar técnicas de despacho de producto de alta calidad a través de</p>	<p><u>Inversiones</u></p> <p>1. Expertos de largo plazo</p> <p>a) Lider de equipo (1 persona) 60.0PM</p> <p>b) Coordinador (2 personas) 60.5PM</p> <p>c) Cultivo y extensión de hortalizas(2 personas) 57.5PM</p> <p>d) Protección de plantas(control de enfermedades)(1 persona) 60.0PM</p> <p>e) Protección de plantas(control de plagas) 60.0PM</p> <p>2. Experto de corto plazo.</p> <p>a) Mejoramiento genético(5 personas) 10.0PM</p> <p>b) Cultivo de hortalizas(2 personas) 4.3PM</p> <p>c) Protección de plantas(control de enfermedades)(3 personas) 4.9PM</p> <p>d) Protección de plantas(control de plagas)(3 personas) 3.4PM</p> <p>e) Extensión (1 persona) 1.6PM</p> <p>3. Entrenamiento</p> <p>a) Entrenamiento en Japon 17 personas (12 personas estan puestos)</p> <p>4. Equipos y maquinarias</p> <p>a) Equipos donados (vehículos, tractores, materiales) 134.371.000 Yenes</p> <p>b) Equipos acompañados a los expertos 11.822.000 Yenes</p>	<p>Inversiones de la parte paraguayana</p> <p>1. Asignación de contrapartes.</p> <p>a. Director del proyecto</p> <p>b. Sub-director del proyecto</p> <p>c. Gerente Gral. Del Proyecto</p> <p>d. Gerente del Proyecto</p> <p>e. Mejoramiento Genetico(5 personas) 178PM</p> <p>f. Protección de plantas(control de enfermedades)(2 personas) 104PM</p> <p>g. Protección de plantas(control de plagas)(3 personas) 156PM</p> <p>h. Extensión (4 personas) 142PM</p> <p>i. Secretaria y chofer(2 personas)</p> <p>Nota: Período de PM (persona por mas) esta calculado hasta fin de agosto de 2001)</p> <p>2. Costo local(gasto de administración y operación del proyecto. No incluye el sueldo básico de contrapartes) Total 16.051.000 Yenes</p> <p>Nota: hasta el fin de marzo del 2001</p> <p>3. Suministro de tierra y otras facilidades</p> <p>a. Oficina del proyecto</p> <p>b. Laboratorios</p> <p>c. Parcelas para cultivo</p>	<p>1. Se construye las instalaciones para la investigación y parcelas, se mantienen en forma adecuada.</p> <p>2. el transporte y el despacho de los materiales para la investigación y capacitación se realiza sin ningún atraso.</p> <p>3. colocación de los contrapartes y fluida distribución y desembolso de costo administrativo del proyecto</p> <p>4. los materiales y equipos se aprovechan en forma eficiente</p>

Resumen del proyecto	Indicadores verificables	Medios de Verificación	Condiciones externas
<p>mejoramientos de técnicas de cosecha y procesamiento de productos.</p> <p>3 Definición de la ocurrencia y la ecología de las principales plagas y enfermedades, además se desarrollan las técnicas de su control.</p> <p>3.1 Estudiar la ocurrencia de las enfermedades y los daños causados por las enfermedades. Diagnosticar las principales enfermedades y identificarlos patógenos además determinar la ocurrencia y la ecología de los patógenos.</p> <p>3.2 Desarrollar las técnicas de control de las principales enfermedades.</p> <p>3.3 Estudiar los daños cuasados por plagas y determinar la aparición de las principales plagas.</p> <p>3.4 Desarrollar las técnicas de control de plagas.</p> <p>4 Difusión de técnicas</p> <p>4.1 Validar las variedades seleccionadas y las técnicas desarrolladas en las parcelas.</p> <p>4.2 Realización de cursos técnicos y seminarios técnicos para extensionistas y pequeños productores líderes.</p> <p>4.3 Realización de cursos móviles para formar los pequeños productores líderes</p> <p>4.4 Elaboración de materiales didácticos y boletines técnicos para la difusión.</p>	<p>total 146.194.000 Yenes</p> <p>5. costo local total 62.686.000 Yenes</p> <p>6. Otros.</p> <p>Construcción de laboratorios de hortalizas(780 m2) 26.457.000 Yenes</p>	<p>d. Tierra (1.75 ha.)</p>	<p>Pre-requisitos</p> <ol style="list-style-type: none"> 1. el MAG, instituciones agrarias departamentales, instituciones relacionadas de investigación y las organizaciones de productores apoyan al proyecto. 2. los productores de la hortalizas estan de acuerdo con la implementación del proyecto.

Anexo Nº 2 Cuadro de Evaluación

Criterio	Preguntas de Evaluación		Criterios y medida de logro	Datos requeridos	Fuente Datos	Método de recolección de datos
	Pregunta Principal	Preguntas específicas				
Impacto	¿Hasta qué punto se ha alcanzado la Meta Superior del proyecto (Lograr el mejoramiento de la estructura de gerenciamiento de los pequeños productores de manera a contribuir al mejoramiento de la calidad de vida de los mismos) desde su evaluación final?	<ul style="list-style-type: none"> ¿Qué grado de mejora se ha observado en cuanto al volumen de comercialización de hortalizas nacionales en el mercado central de abasto por parte de los productores afectados al proyecto? ¿Se mantienen prácticas de clasificación de productos a ser comercializados en el Mercado de Abasto? ¿Se verifican mejoras continuas en los hogares de los pequeños productores con ingresos de comercialización de hortalizas? ¿Ha mejorado la calidad de las hortalizas producidas por los productores beneficiados por el proyecto? 	<ul style="list-style-type: none"> Volumen de comercialización de hortalizas Existencia de prácticas de clasificación Existencia de mejoras continuas Variación en la calidad del producto. 	<ul style="list-style-type: none"> Volumen de comercialización de hortalizas Prácticas involucradas en el proceso productivo Infraestructura de los hogares Proporción del producto comercializado a precios diferenciados. 	<ul style="list-style-type: none"> Documentos de registro del Mercado de Abasto y del MAG Productores y contrapartes Productores y Contrapartes Mercado de Abasto, centros regionales de acopio. 	<ul style="list-style-type: none"> Análisis documental de fuentes secundarias Entrevistas, grupos focales y encuesta dirigida Idem Entrevistas, estadísticas de DAMA.
	¿Ha contribuido la implementación del proyecto a alcanzar la Meta superior?	<ul style="list-style-type: none"> ¿Los productos comercializados por los productores se producen según desarrollos y técnicas adquiridas durante la implementación del proyecto? ¿Ha mejorado la capacidad económica de los productores beneficiados? ¿Se ha generalizado la utilización de las técnicas de producción de hortalizas y las variedades seleccionadas por parte de agricultores? 	<ul style="list-style-type: none"> Mayoría de productos producidos por nuevas técnicas Mejoramiento del ingreso de los productores Variación en la cantidad de agricultores que utilizan las nuevas técnicas y variedades. 	<ul style="list-style-type: none"> Técnicas utilizadas actualmente para la producción Ingreso de los productores Cantidad de agricultores que utilizan las técnicas de cultivo y las variedades seleccionadas. 	<ul style="list-style-type: none"> Productores y contrapartes Productores y contrapartes Productor, extensionistas, investigadores, estadísticas de DEAG e IAN. 	<ul style="list-style-type: none"> Entrevistas, grupos focales y encuesta dirigida Recopilación de datos secundarios, encuestas, entrevistas, grupo focal.
	¿Qué factores han contribuido o inhibido los impactos del proyecto a alcanzar la Meta superior del proyecto?	<ul style="list-style-type: none"> ¿Existen aspectos que podrían ser mejorados, eliminados, modificados o potenciados, que han ayudado o dificultado en el funcionamiento del proyecto (calidad de capacitación, interés de la contraparte, disponibilidad de recursos, etc.)? ¿La disponibilidad de recursos financieros y la agilidad de las operaciones del proyecto por parte del MAG ha sido un factor inhibitorio o ha contribuido al éxito del proyecto? ¿Existen otros proyectos similares ejecutados por las instituciones afectadas u otras instituciones? 	<ul style="list-style-type: none"> Existencia de factores que contribuyeron o inhibieron la meta Variación en el número de insumos y equipos suministrados por el MAG. Incremento en la cantidad de proyectos similares en las zonas afectadas. 	<ul style="list-style-type: none"> Relevamiento de aspectos del proyecto que colaboraron o inhibieron la meta Estadísticas de insumos y equipos suministrados por el MAG. Número de proyectos similares existentes en las zonas afectadas. 	<ul style="list-style-type: none"> Productores y contrapartes Estadísticas de DEAG e IAN, extensionistas. Productor, extensionistas. 	<ul style="list-style-type: none"> Entrevistas, grupos focales y encuesta dirigida Recopilación de datos secundarios, entrevistas, grupo focal. Entrevistas, Grupo focal, encuestas.

Criterio	Preguntas de Evaluación		Criterios y medida de logro	Datos requeridos	Fuente Datos	Método de recolección de datos
	Pregunta Principal	Preguntas específicas				
Impacto	¿Se han observado efectos inesperados positivos o negativos en el proyecto?	<ul style="list-style-type: none"> • ¿Que efectos positivos ha observado el funcionario del MAG, el productor o el comerciante a partir de la implementación del proyecto, que no estaba previsto en el mismo? • ¿Que efectos negativos ha observado el funcionario del MAG, el productor o el comerciante a partir de la implementación del proyecto, que no estaba previsto en el mismo? • Como fruto de mejores niveles de vida ¿Se ha incrementado la escolaridad de hijos de productores beneficiados por el proyecto? • ¿Se ha producido un resultado inesperado respecto a la ocurrencia de enfermedades o a la presencia de plagas sobre los cultivos? 	<ul style="list-style-type: none"> • Existencia de Efectos positivos y negativos en el MAG observados por los productores, comerciantes y funcionarios. • Escolaridad. • Variación en la producción de hortalizas afectadas por otras plagas u enfermedades no contempladas en el proyecto. 	<ul style="list-style-type: none"> • Relevamiento de los efectos en el MAG observados por productores, comerciantes y funcionarios • Escolaridad de los hijos del productor. • Volumen de producción de hortalizas afectadas por plagas o enfermedades nuevas. 	<ul style="list-style-type: none"> • Productores y contrapartes • Productores. • Agricultores, extensionistas, investigadores especializados. Estadísticas de DEAG e IAN. 	<ul style="list-style-type: none"> • Entrevistas, grupos focales y encuesta dirigida • Encuestas. • Recopilación de datos secundarios, encuestas, entrevistas, grupo focal.
	Entre los cambios positivos, ¿cómo el proyecto ha empoderado el grupo meta económica y socialmente? ¿Y el proyecto ha contribuido al desarrollo de la capacidad institucional de IAN y DEAG?	<ul style="list-style-type: none"> • ¿Con qué grado de autonomía los comités de productores y productores individuales, aplican los desarrollos del proyecto sin la intervención del extensionista? • Nuevas variedades agrícolas desarrolladas utilizando las técnicas y equipos introducidos por el proyecto • ¿Ha aumentado la cantidad de investigadores especializados dentro de IAN y DEAG? 	<ul style="list-style-type: none"> • Evidencias de autonomía de los comités • Presencia de nuevas variedades desarrolladas • Variación del número de investigadores especializados. 	<ul style="list-style-type: none"> • Relevamiento de capacidad de autogestión de Comités • Relevamiento de variedades. • Número de investigadores especializados. 	<ul style="list-style-type: none"> • Productores líderes • Funcionarios del IAN y DEAG. • Investigadores especializados, funcionarios de IAN y DEAG. 	<ul style="list-style-type: none"> • Entrevistas, grupos focales y encuesta dirigida • Entrevistas, grupos focales y encuesta dirigida. • Entrevistas, grupo focal, recopilación de datos secundarios.
	¿Se han observado algún cambio negativo en los beneficiarios, incluyendo el grupo minoritario y vulnerable? ¿El proyecto ha contribuido negativamente a la promoción del desarrollo ambiental y social del área de meta?	<ul style="list-style-type: none"> • Con la implementación de actividades del proyecto, ¿se han presentado evidencias de impactos negativos en el aspecto ambiental del área meta? • ¿La implementación del proyecto ha generado ineficiencias o incapacidades dentro de la agencia implementadora? • ¿El ingreso o la productividad ha disminuido? • ¿Las condiciones sociales fueron afectadas negativamente? • ¿Se han generado conflictos a partir de la implementación del proyecto? • ¿Se ha incrementado el costo de producción de los agricultores y reducido los márgenes de ganancia? 	<ul style="list-style-type: none"> • Evidencias de impactos negativos • Evidencias de ineficiencias provocadas por el proyecto • Evidencias de disminución de productividad • Evidencias de efectos negativos en condiciones sociales • Evidencias de conflictos generados por el proyecto. • Variación en los costos de producción y márgenes de ganancia. 	<ul style="list-style-type: none"> • Evidencias de impactos negativos • Evidencias de ineficiencias provocadas por el proyecto • Evidencias de disminución de productividad • Evidencias de efectos negativos en condiciones sociales • Evidencias de conflictos generados por el proyecto. • Costo de producción y márgenes de ganancia. 	<ul style="list-style-type: none"> • Productores líderes • Productores y contrapartes • Productores líderes y contrapartes • Productores líderes y contrapartes. • Agricultores, extensionistas. 	<ul style="list-style-type: none"> • Entrevistas, grupos focales y encuesta dirigida • Entrevistas, grupos focales y encuesta dirigida • Entrevistas, grupos focales y encuesta dirigida • Entrevistas, grupos focales y encuesta dirigida • Entrevistas, grupos focales y encuesta dirigida. • Recopilación de datos secundarios, encuestas, entrevistas, grupo focal.

Criterio	Preguntas de Evaluación		Criterios y medida de logro	Datos requeridos	Fuente Datos	Método de recolección de datos
	Pregunta Principal	Preguntas específicas				
Impacto	¿Se encuentran algunos factores exteriores que han influido a los resultados de la meta superior?	<ul style="list-style-type: none"> • Ha habido variaciones en los precios de los productos desarrollados en el mercado • Se han experimentado cambios críticos en la administración del MAG • ¿Ha habido plagas u otros factores que pudieran afectar la productividad de los productos desarrollados? • ¿Los factores climáticos han afectado el volumen de producción y calidad de las hortalizas de la zona de objeto del proyecto? 	<ul style="list-style-type: none"> • Evidencias de variación de precios • Evidencias de cambios críticos • Evidencias de otros factores. • Variación en las condiciones climáticas. 	<ul style="list-style-type: none"> • Evidencias de variación de precios • Evidencias de cambios críticos • Evidencias de otros factores. • Estadísticas meteorológicas. 	<ul style="list-style-type: none"> • Funcionarios y contrapartes • Funcionarios y contrapartes • Productores líderes, funcionarios y contrapartes • Instituto meteorológico Nacional. 	<ul style="list-style-type: none"> • Entrevistas, grupos focales y encuesta dirigida • Entrevistas, grupos focales y encuesta dirigida • Entrevistas, grupos focales y encuesta dirigida. • Datos secundarios, entrevistas.
	¿Dentro del área de cobertura del proyecto, cuánto es el % de los líderes de los pequeños productores que podría decir que han conseguido beneficiarse con los resultados del proyecto?	<ul style="list-style-type: none"> • ¿Qué porcentaje de productores líderes han logrado beneficiarse del proyecto? • ¿Además de los beneficiarios originales del proyecto, se ha tenido efectos multiplicadores a nuevos productores, desde la finalización del proyecto? 	<ul style="list-style-type: none"> • Productores que han logrado beneficiarse • Beneficiarios indirectos o nuevos beneficiarios 	<ul style="list-style-type: none"> • Relevamiento del número de beneficiarios • Relevamiento del número de nuevos beneficiarios 	<ul style="list-style-type: none"> • Funcionarios, contrapartes y productores líderes • Funcionarios, contrapartes y productores líderes 	<ul style="list-style-type: none"> • Entrevistas, grupos focales y encuesta dirigida • Entrevistas, grupos focales y encuesta dirigida
	Luego de la culminación del proyecto, el IAN ¿ha desarrollado nuevas líneas promisorias de melón frutilla, tomate que pueden derivar en nuevas variedades? ¿Se está progresando en el desarrollo de estos?	<ul style="list-style-type: none"> • Además de las variedades desarrolladas durante la implementación del proyecto, ¿cuántas nuevas variedades de la misma especie u otras, han sido desarrolladas? • ¿Existen procesos de investigación tendientes al desarrollo de nuevas variedades y con resultados significativos? • ¿Han sido difundidas las nuevas técnicas desarrolladas por IAN hacia los agricultores? 	<ul style="list-style-type: none"> • Evidencias de nuevas variedades desarrolladas • Evidencias de procesos de investigación extra-proyecto. • Capacitación a los extensionistas sobre las nuevas técnicas y utilización de los productores de las áreas de objeto. 	<ul style="list-style-type: none"> • Evidencias de nuevas variedades desarrolladas • Evidencias de procesos de investigación extra-proyecto • Cantidad de agricultores líderes que utilizan las técnicas de cultivo. 	<ul style="list-style-type: none"> • Funcionarios, contrapartes y documentos institucionales • Funcionarios, contrapartes y documentos institucionales. • Productor, extensionistas, estadísticas de DEAG e IAN. 	<ul style="list-style-type: none"> • Entrevistas, grupos focales, encuesta dirigida e investigación documental • Entrevistas, grupos focales, encuesta dirigida e investigación documental. • Datos secundarios, encuestas, entrevistas, grupo focal.
	Luego de la culminación del proyecto, en la actualidad se ha conseguido un cambio significativo en el uso de agroquímicos en el área de cobertura del proyecto? (Ha disminuido el uso de agroquímicos en el área de cobertura del proyecto? (Ha disminuido el uso de agroquímicos o no?	<ul style="list-style-type: none"> • Cantidad de productores que declaran haber reducido el uso de agroquímicos • ¿Se ha sustituido el uso de agroquímicos contaminantes, por los agroquímicos selectivos? 	<ul style="list-style-type: none"> • Manifestar haber reducido el uso de agroquímicos (cantidad) • Variación en la cantidad de agroquímicos selectivos utilizados. 	<ul style="list-style-type: none"> • Nivel de uso de agroquímicos en la zona afectada por el proyecto. • Cantidad de agroquímicos selectivos utilizados. 	<ul style="list-style-type: none"> • Productores líderes, contrapartes, documentación oficial y documentación de la ejecución del proyecto. • Estadísticas de DEAG e IAN, extensionistas, agricultores. 	<ul style="list-style-type: none"> • Entrevistas, grupos focales, encuesta dirigida e investigación documental • Recopilación de datos secundarios, encuestas, entrevistas, grupo focal.

Criterio	Preguntas de Evaluación		Criterios y medida de logro	Datos requeridos	Fuente Datos	Método de recolección de datos
	Pregunta Principal	Preguntas específicas				
Sustentabilidad	¿Se han mantenido los resultados del proyecto desde la terminación del proyecto?	<ul style="list-style-type: none"> • Volumen de producción en proceso de selección • Desarrollo de nuevas variedades? • Los productores mantienen vigente las técnicas transferidas en el cultivo de las hortalizas? • Se mantienen en los productores prácticas de manejo de plagas promovidas por el proyecto? (porcentaje) • ¿Se ha mantenido o incrementado la asignación de recursos para mejorar la producción de los productores de la zona de objeto del proyecto? 	<ul style="list-style-type: none"> • Evidencias de proceso de selección • Evidencias de desarrollo de nuevas variedades • Evidencia de empleo de técnicas • Evidencias de prácticas de manejo de plagas. • Variaciones en los recursos asignados a los productores de la zona de objeto del proyecto. 	<ul style="list-style-type: none"> • Evidencias de proceso de selección • Evidencias de desarrollo de nuevas variedades • Evidencia de empleo de técnicas • Evidencias de prácticas de manejo de plagas. • Estadísticas de recursos (personal, equipos e insumos, presupuesto de investigación) asignados a la producción de las zonas objeto. 	<ul style="list-style-type: none"> • Productores líderes, contrapartes, documentación oficial y documentación de la ejecución del proyecto. • Idem • Idem • Idem • Productor, extensionistas. IAN y DEAG. 	<ul style="list-style-type: none"> • Entrevistas, grupos focales, encuesta dirigida e investigación documental • Idem • Idem • Grupos focales, entrevistas, recopilación de datos secundarios, verificación in situ.
	¿De qué manera el IAN y DEAG han mantenido los beneficios de la Meta del proyecto y la Meta Superior del Proyecto?	<ul style="list-style-type: none"> • Informes sobre actividades relacionadas a transferencia de tecnologías a productores por parte del IAN y DEAG • Cantidad de nuevos productores y áreas geográficas asistidos y capacitados por el IAN y DEAG, luego de la culminación del proyecto. • ¿Se han mantenido el número de extensionistas afectados a las zonas de referencia? • ¿Se ha mantenido el número de investigadores en el IAN? 	<ul style="list-style-type: none"> • Existencia de prácticas de transferencia • Presencia de nuevos productores y áreas anteriormente no cubiertas • Variación en el número de extensionistas afectados al proyecto luego de finalizado. • Variación en el número de investigadores expertos en el IAN luego de finalizado el proyecto. 	<ul style="list-style-type: none"> • Existencia de prácticas de transferencia • Presencia de nuevos productores y áreas anteriormente no cubiertas. • Número de extensionistas afectados actualmente del proyecto. • Número de investigadores existentes en el IAN. 	<ul style="list-style-type: none"> • Productores líderes, contrapartes, documentación oficial y documentación de la ejecución del proyecto • Idem • MAG • IAN 	<ul style="list-style-type: none"> • Entrevistas, grupos focales, encuesta dirigida e investigación documental • Idem • Entrevistas, recopilación de datos secundarios, verificación in situ. • Entrevistas, recopilación de datos secundarios, verificación in situ.
	¿Qué factores han contribuido o inhibido la sustentabilidad del proyecto?	<ul style="list-style-type: none"> • Cuales de los aspectos han influido en la permanencia de los efectos del proyecto: <ul style="list-style-type: none"> ○ Económico-presupuestarios ○ Sociales ○ Institucionales ○ Tecnológicos 	<ul style="list-style-type: none"> • Existencia de aspectos que influyeron en la permanencia de los efectos 	<ul style="list-style-type: none"> • Relevamiento de los aspectos 	<ul style="list-style-type: none"> • Productores líderes, contrapartes, documentación oficial y documentación de la ejecución del proyecto 	<ul style="list-style-type: none"> • Entrevistas, grupos focales, encuesta dirigida e investigación documental

Criterio	Preguntas de Evaluación		Criterios y medida de logro	Datos requeridos	Fuente Datos	Método de recolección de datos
	Pregunta Principal	Preguntas específicas				
Sustentabilidad	Considerando de que el proyecto debe ser auto-sustentable y analizando el aspecto institucional, ¿cuál es el nivel de capacidad de administración del IAN y la DEAG para mantener la eficiencia del Proyecto? En caso de que estos no sean los ideales, cuáles serían las sugerencias o métodos a implementar para mejorarlas?	<ul style="list-style-type: none"> • ¿Qué capacidad de mantenimiento y financiamiento de equipos humanos e infraestructura donada, existe actualmente en IAD y DEAG? • ¿Cómo ha evolucionado del presupuesto real desde la finalización del proyecto? • ¿Cuáles son los factores que puedan potenciar el proyecto a partir de su culminación? (opinión) • ¿Se han creado vínculos de investigación con otras instituciones similares de otros países? 	<ul style="list-style-type: none"> • Evidencias de capacidad de mantenimiento y financiamiento • Evolución del presupuesto real • Relevamiento de factores que pueden potenciar el proyecto • Creación de vínculos con otras instituciones u organismos similares de otros países. 	<ul style="list-style-type: none"> • Capacidad de mantenimiento y financiamiento del IAN y DEAG • Presupuesto real • Relevamiento de factores que pueden potenciar el proyecto • Instituciones u organismos similares relacionados al IAN y DEAG. 	<ul style="list-style-type: none"> • Contrapartes, documentación oficial y documentación de la ejecución del proyecto • Presupuesto • IAN, DEAG. • IAN, DEAG. 	<ul style="list-style-type: none"> • Entrevistas, grupos focales, encuesta dirigida e investigación documental • Investigación documental • Entrevistas • Entrevistas, encuestas.
	¿Cuáles son las expectativas, especialmente en relación al esperado presupuesto del MAG cuyos rubros serán destinado al IAN para las Pruebas de Investigación y a la DEAG para su programa: Difusión de las técnicas de cultivo?	<ul style="list-style-type: none"> • ¿Qué prioridades al respecto tienen las autoridades y funcionarios del MAG? • ¿Cómo ha evolucionado el presupuesto destinado por el MAG para la IAN y el DEAG? 	<ul style="list-style-type: none"> • Existencia de priorización al respecto. • Evolución de los recursos presupuestados por el MAG para el IAN y el DEAG. 	<ul style="list-style-type: none"> • Existencia de priorización al respecto • Presupuesto desagregado del MAG: 	<ul style="list-style-type: none"> • Departamentos administrativos del IAN y DEAG • MAG, IAN, DEAG. 	<ul style="list-style-type: none"> • Entrevistas con departamentos administrativos del IAN y del DEAG • Recopilación de datos secundarios, entrevistas.
	¿Cuál es el grado de acompañamiento de los C/Ps del IAN luego de la culminación del proyecto?	<ul style="list-style-type: none"> • ¿Qué cantidad de C/Ps originales se encuentran aún afectados al proyecto en funcionamiento en el IAN? • ¿Han permanecido en sus puestos los C/Ps del IAN? 	<ul style="list-style-type: none"> • Cantidad de contrapartes aún involucradas • Variaciones en la cantidad de C/Ps capacitados por el proyecto. 	<ul style="list-style-type: none"> • Relevamiento del número de contrapartes involucradas • Número actual de C/Ps capacitados por el proyecto. 	<ul style="list-style-type: none"> • Contrapartes e información oficial • IAN, C/Ps. 	<ul style="list-style-type: none"> • Entrevistas e investigación documental • Entrevistas, recopilación de datos secundarios.
	¿Se utiliza de manera efectiva los equipos y las máquinas que fueron donados para el proyecto? En caso de observarse algún problema en el equipo o en la máquina, (no se utiliza, está descompuesto), definir concretamente cuál es el inconveniente y la causa del mismo.	<ul style="list-style-type: none"> • Porcentaje e inventario de los equipos donados en pleno funcionamiento • Porcentaje y listado de los equipos obsoletos • Porcentaje y listado de equipos en total desuso por daño • Porcentaje y listado de equipos sin repuestos de mantenimiento 	<ul style="list-style-type: none"> • Porcentaje e inventario de los equipos donados en pleno funcionamiento • Porcentaje y listado de los equipos obsoletos • Porcentaje y listado de equipos en total desuso por daño • Porcentaje y listado de equipos sin repuestos de mantenimiento 	<ul style="list-style-type: none"> • Porcentaje e inventario de los equipos donados en pleno funcionamiento • Porcentaje y listado de los equipos obsoletos • Porcentaje y listado de equipos en total desuso por daño • Porcentaje y listado de equipos sin repuestos de mantenimiento 	<ul style="list-style-type: none"> • 	<ul style="list-style-type: none"> • Entrevistas e investigación documental

Criterio	Preguntas de Evaluación		Criterios y medida de logro	Datos requeridos	Fuente Datos	Método de recolección de datos
	Pregunta Principal	Preguntas específicas				
Sustentabilidad	Según el informe del Resumen de Evaluación Final del Proyecto, donde manifiesta que los contrapartes del IAN tenían poca experiencia para establecer temas de investigación por su voluntad propia y para adquirir los métodos de investigación a fin de solucionar los problemas. Actualmente, cómo está el nivel de adquisición de métodos de investigación de los C/Ps del IAN?	<ul style="list-style-type: none"> • ¿Qué capacidad de absorción tienen los C/Ps actualmente asignados al IAN? • ¿Qué la relación guarda el grado académico y nivel de especialización con el grado de motivación para absorber las tecnologías relevantes? • ¿Se ha elaborado un plan o cronograma de investigaciones futuras? 	<ul style="list-style-type: none"> • Evidencias de predisposición hacia la absorción de nuevas tecnologías • Nuevos programas o planes de investigación establecidos. 	<ul style="list-style-type: none"> • Evidencias de predisposición hacia la absorción de nuevas tecnologías • Programas o planes de investigación establecidos. 	<ul style="list-style-type: none"> • Contrapartes • Plan operativo Anual del IAN. 	<ul style="list-style-type: none"> • Entrevistas con departamentos administrativos del IAN y del DEAG • Recopilación de datos secundarios, entrevistas.
	Luego de la culminación del proyecto, se ha observado un cierto cambio en la política para los pequeños productores por parte del MAG, dando continuidad al proyecto?	<ul style="list-style-type: none"> • ¿Qué nuevos proyectos ha implementado el MAG orientado al mejoramiento de las técnicas productivas en los pequeños productores? • ¿Qué grado de utilización de las técnicas desarrolladas por el proyecto se verifican en esas nuevas políticas? (PROCESAL, tecnificación, etc.) • ¿Se ha establecido un presupuesto que permita a DEAG e IAN mantener los beneficios del proyecto? 	<ul style="list-style-type: none"> • Existencia de nuevos proyectos de implementación • Evidencias de utilización de técnicas del proyecto • Evolución de los recursos presupuestados por el MAG a la DEAG e IAN. 	<ul style="list-style-type: none"> • Existencia de nuevos proyectos de implementación • Evidencias de utilización de técnicas del proyecto. • Presupuesto desagregado del MAG. 	<ul style="list-style-type: none"> • Contrapartes y funcionarios del IAN y DEAG • MAG, DEAG, IAN. 	<ul style="list-style-type: none"> • Entrevistas con contrapartes y funcionarios del IAN y DEAG • Recopilación de datos secundarios, entrevistas.

Anexo N° 3 Registro Fotográfico



Parcela Demostrativa en la Compañía Santo Domingo (Minga Guazú, Alto Paraná)



Luego de 3 años de finalizado el proyecto, sus resultados aún se mantienen



Parcela Demostrativa (Minga guazú) preparación de suelos



Entrevista con pequeño productor en su finca. (Minga Guazú)



Nuevos rubros que se han impulsado luego de la finalización del proyecto - Cultivo de Hongos (champignon)



Entrevista en la Oficina Zonal de Extensión Agraria del Alto Paraná



Alta aplicación de las técnicas aprendidas



Producción de tomates



Vivero construido por becario al Japón, producción de pepinos



Vivero construido por becario al Japón, producción de pepinos



Joven que ha sido becado al Japón



Plantación de Frutilla en macetas – Productor de Ytu (Caacupé)



Grupo Focal con productores del Departamento de Cordillera
Compañía Cerro Porteño (Eusebio Ayala)



Grupo Focal



Grupo Focal



Encuesta a Productores



Focus Group



Caminos de Acceso



Producción con Malla Media-sombra en el Departamento de Cordillera



Mucuna, nuevo rubro de producción en el Departamento de Cordillera



Los ingresos por la venta de hortaliza han permitido diversificar la producción con la siembra de pastura para animales



Plantación de Pasto Camerún



Plantación de Pasto Camerún



La producción de maíz y maíz dulce es una de los rubros producidos con las técnicas aprendidas durante el proyecto



Se han observado prácticas de rotación de cultivos y recuperación de suelos



Plantación de Mucuna en el Departamento de Cordillera



Plantación de Mucuna en el Departamento de Cordillera



Plantación de Mucuna en el Departamento de Cordillera



La escasez de agua causa es uno de los problemas más acuciantes de la zona de cordillera



La construcción de Silos y depósitos para granos reducen la incertidumbre de la venta de los productos



Encuesta a productores



La falta de caminos de todo tiempo complican la salida de los productos



Entrevista con el Sr. Sonoda en el Centro Tecnológico Agropecuario en el Paraguay (CETAPAR)



Entrevista en CETAPAR



Reunión con productores del Alto Paraná



Reunión con productores del Alto Paraná



Vivero para producción de frutillas. Instituto Agronómico Nacional (IAN)



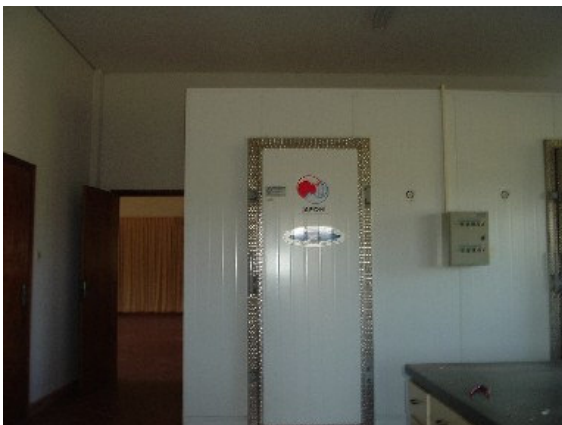
Equipos e implementos agrícolas donados por el Japón



Equipos e implementos agrícolas donados por el Japón



Motocultor donado por el Japón



Cámara de esterilización para germinación libre de virus



Equipo de Laboratorio donado por el Japón



Invernaderos. Instituto Agronómico Nacional (IAN)



Invernaderos. Instituto Agronómico Nacional (IAN)



Producción de Melón colgante en Invernaderos, nueva técnica desarrollada. Instituto Agronómico Nacional (IAN)



Producción de Melón colgante en Invernaderos. Instituto Agronómico Nacional (IAN)



Producción de Melón colgante en Invernaderos. Instituto Agronómico Nacional (IAN)



Producción de Melón colgante en Invernaderos. Instituto Agronómico Nacional (IAN)