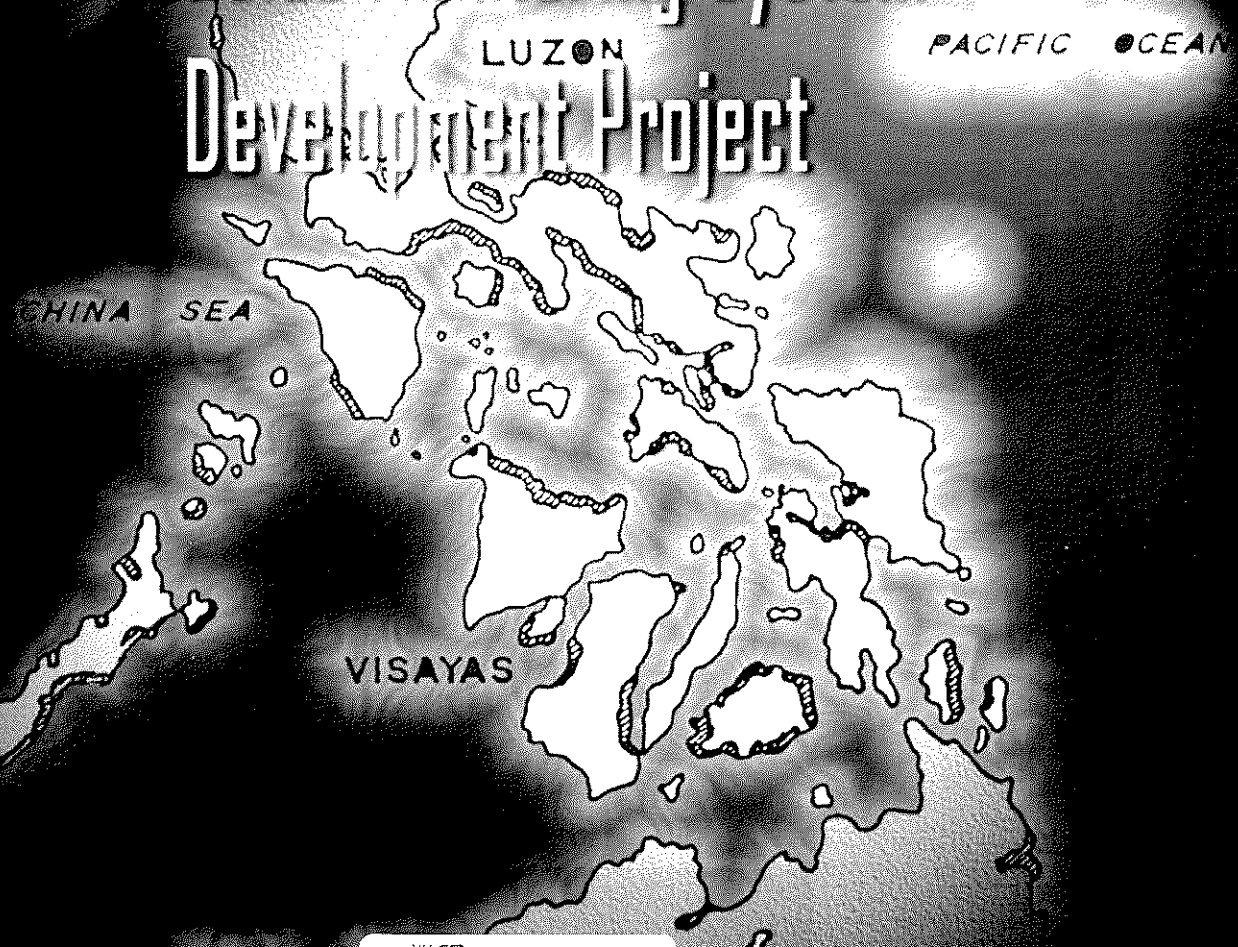
April 2005

Ex-Post Evaluation Study Report
Pesticide Monitoring System
Development Project



Submitted by

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Review of the Ex-Post Evaluation (EPE) Study Report on the Pesticide Monitoring System Development Project (PMSDP)

The strongest impact of the PTTC was really on the technical capabilities of the Bureau of Plant Industry (BPI) and the Fertilizer and Pesticide Authority (FPA) as the frontlines in the pesticide residue and formulation monitoring system in the Philippines. In essence, the strengthening of technical capabilities was the main contribution of JICA's Project Type Technical Cooperation on Pesticide Monitoring System Development Project based on the Ex-Post Evaluation (EPE) Study carried out during the period October 2004 to February 2005.

The EPE Report indicated that the Project Purpose was achieved in developing a comprehensive system for monitoring pesticide residues and pesticide formulation in the Philippines as well as the delivery of Outputs based on indicators in the Project Design Matrix (PDM).

The PDM of the PMSDP indicated the delivery of 5 outputs which were mainly technical in nature, namely: (a) capability in pesticide residue and pesticide formulation is improved; (b) methods of technology of Supervised Pesticide Residue Trials in crops (SPRT) are improved; (c) methods of Pesticide Residue Monitoring (PRM) are improved; (d) necessary information to establish MRLs and a safe use direction of pesticide are provided to the relevant agencies; and (e) activities to disseminate safe bundling and proper use of pesticide are improved.

It however, pointed out that the overall goal of ensuring safe food supply within the tolerable levels of pesticide residue was only partially achieved. The EPE Study Team cited as probable reason for such results was that the institutional and financial environments were not part of the overall strategy of the Project. This particular finding is very interesting since both BPI and FPA are expanding their technical capabilities, particularly in the area of establishing the Maximum Residue Level (MRL) of pesticide.

BPI's Pesticide Analytical Laboratories (PALs) have expanded the analytical services to include such areas as environment, water, soil, fish, oysters and plastics. On the other hand, the FPA represented the Philippines in the ASEAN Expert Working Group on the Harmonization of MRLs that has accomplished the harmonization of 369 MRLs for 29 pesticides that has been accepted by member countries.

The findings of the EPE Study Team, on the inclusion of institutional and financial environment in the overall strategy, may have to be considered as critical areas for the success for all Projects (ongoing and proposed). The PDM indicated that budget and institutional concerns are as just assumptions on the preconditions to the project (Activities/Inputs Level). These two assumptions were indicated in the PDM, as follows: (a) budget and staff allocated to the FPA and the BPI; and (b) the relevant agencies understand the Project well and play each role required. In hindsight, it may have been

best if institutional strengthening was included as one of the Outputs instead of considering it as just of the Assumption on the precondition of the Project.

The EPE Report indicated that the Department of Agriculture (DA) had already taken action to improve the institutional aspect to support the gains of the PMSDP. As part of the latest Policy Agreements by the GOJ & GOP Joint Monitoring Team, the DA should strengthen the linkages between and among its bureaus and attached agencies and other stakeholders to sustain the gains of the Project. The findings of the EPE Study indicated the following: (a) post PMDP activities between DA agencies, institutions and stakeholders have started but BPI and FPA believed that these are limited due to funds constraints; and (b) the establishment of the MRL Committee composed of CROPLIFE, Pesticide Industry, Agri Growers and Exporters as well as other stakeholders is a first step towards promoting stronger linkages and a more comprehensive system.

The EPE study presented some budget and expenditure figures to highlight the need for financial support to the Project. The BPI and FPA need to review its cost structure (including personnel cost as well as depreciation and maintenance of equipment) in providing the laboratory services being extended to its clients. The cost information would be useful in assessing the appropriate level of laboratory fees to be required from the private sector as well as guide DA and DBM in allocating the needed financial resources.

The 50-page EPE Study Report contains other information, diagrams and tables which would help those interested in the details of study. The EPE Study highlighted the achievement of Purpose and delivery of Outputs and also pointed out the concern on the sustainability of achieving the long=term goal.

It indicated the need to take a closer look on the institutional aspect to ensure long-term sustainability and achievement of its goal of ensuring safe food supply within tolerable levels of pesticide residue. It mainly highlighted this concern under the section on Lessons Learned, as reflected in the statement below.

> "In the future, a keen appreciation of the environment and actual organizational dynamics should be considered in designing a concerted strategy to achieve the overall goal. The merits of using two implementing agencies face difficulties. It would be simpler in terms of accountability to work only though one lead agency to implement with partner institutions as sub-leaders. Institutional capacities may help maximize the impact of technological capability enhancing projects."

Prepared by:

RAMON NORIEL B. SICAD
External Reviewer on the EPE Report on PMSDP

EX-POST EVALUATION SUMMARY

Evaluation conducted by: JICA Overseas Office

1. Outline of the Project		
Country: Philippines		**Project title:***Pesticide Residue Monitoring System Development (PMDP)*
Issue/Sector: Agriculture		**Cooperation scheme:**Project-Type Technical Cooperation (PTTC)
Section in charge: Department of Agriculture		**Total cost: JYen 53.13 plus PhP 54.9**
Period of Cooperation	**(R/D):** March 1997-March 2002 **(Extension):** **(F/U):**	**Partner Country's Related Organization(s)** : Bureau of Plant Industry and Fertilizer and Pesticide Authority **Supporting Organization in Japan:**Japan International Cooperation Agency
Related Cooperation	Grant-Aid Project on the National Pesticide Residue Monitoring Program on Agriculture and the Environment and Pesticide Formulation Follow-up Cooperation in 2003 on equipment repairs and maintenance	

1-1. Background of the Project

The Government of the Philippines (GOP) requested the Government of Japan (GOJ) to provide a Grant Aid Project to modernize equipment and facilities and to improve the overall capacity of the Pesticide Analytical Laboratories (PALs) of the Bureau of Plant Industry (BPI). The GOP later requested GOJ to provide a Project-Type Technical Cooperation (PTTC) to improve the administration of pesticide regulatory activities of the Fertilizer and Pesticide Authority (FPA), to strengthen the analytical capabilities of the PALs, and to ensure efficient utilization of results and findings of the pesticide residue analyses. All these are cognizant with the need to ensure that safe food items are delivered to the market together with the need to strengthen national capacity to continuously monitor pesticide residues on agricultural/food crops and their effects on human health and the environment.

1-2. Project Overview

More than two years after the PMDP/PTTC completion in March 2002, an ex-post evaluation is now in order, focusing on project impact and sustainability. This will enable JICA-Philippines to draw lessons and formulate recommendations for the improvement of the planning and implementation of similar projects, and to promote greater accountability and transparency, by disseminating evaluation results to project stakeholders and the Japanese public.

Overall Goal

The overall goal of the project was to positively impact on the Philippines' Food Safety Program by assuring that safe food—within tolerable levels of pesticide residue—is supplied to the market for public consumption. For this to happen, the strategy was to develop a comprehensive *system* for monitoring pesticide residues and pesticide formulations and to maintain this system at the national target level of effectiveness (project purpose).

Project Purpose

Two lead agencies of the Department of Agriculture (DA), the BPI and FPA, were the direct beneficiaries of the project, which was intended to develop and strengthen a national and comprehensive system/network for monitoring pesticide residues and pesticide formulations in the Philippines.

Outputs

1) Capability in pesticide residue and pesticide formulation analysis is improved.
2) Methods and technology of Supervised Pesticide Residue Trials in crops (SPRT) are improved.
3) Methods of Pesticide Residue Monitoring (PRM) are improved.
4) Necessary information to establish MRLs and the safe use of pesticides are provided to relevant agencies.
5) Activities to disseminate safe handling and the proper use of pesticides are improved.

Inputs (as of the Project's termination)

Japanese side : JYen 53.13milion

Cost Item	Total (1,000 JYen)
General Local Cost	22,907
Loan Application Program	12,492
Technical Exchange	2,358
Model Infrastructure	12,736
Special Seminar	2,634
Total	**53,127**

Philippine side : PhP54.887 million

Cost Item	BPI	FPA	Total (1,000 PhP)
Travelling	3,703	8,081	11,784
Communications	1,011	480	1,491
Repair and Maintenance of Gov't Vehicles	1,389	90	1,479
Supplies and Materials	11,581	3,347	14,928
Transportation	1,054	150	1,204
Water, Illumination and Power	3,019	323	3,342
Training and Seminar	1,155	1,000	2,155
Gasoline, Oil and Lubricants	730	1,228	1,958
Fidelity Bond and Insurance Premium	0	440	440
Other Services	9,788	6,318	16,106
Total	**33,430**	**21,457**	**54,887**

2. Evaluation Team

Members of Evaluation Team	JICA (Philippines) Office **International Technology Management Corporation (intem):** **Consultants: Cristy G. Ututalum** **Frede G. Moreno**	
Period of evaluation	**Day/ month/ Year - Day/ month/ Year** October 21, 2004 to March 31, 2005	**Type of Evaluation:** Ex-Post Evaluation

3. Results of Evaluation

3-1. Summary of Evaluation Results

(1) Impact

Despite some limitations, project impact was found to be positive across institutional, technical and financial aspects. In terms of institutional impact, the project resulted to a closer partnership between BPI and FPA; with BPI providing scientific and legal bases for determining, whether or not, the agricultural/food crops sold locally or exported abroad are considered safe for human consumption. Technically, the project has increased the overall national capacity for providing more accurate, more reliable and internationally acceptable pesticide residue and formulation analytical services to target clientele, especially the exporters of Philippine fruits and vegetables. The post-project financial impact, however, is limited. The increase in budgetary allocations happened only during the PMDP period. The post-PMDP financial and budgetary constraints of the PALs limited their capacities to expand services for pesticide residue and fertilizer formulation analyses.

In view of the goal of establishing Philippine MRLs and enabling a national pesticide residue monitoring network, post-PMDP activities were more on initial multi-agency meetings lead by BPI and FPA. Similarly, the *goal of enabling a national pesticide residue monitoring system/network resulted to initial multi-agency meetings* and signing of joint agreements among BPI, FPA and other agencies.

(2) Sustainability

Sustainability of PMDP, especially for the year 2002 and beyond, is well-established, but with some limitations. This can be viewed through the integration of PMDP-initiated activities into the mandate, regular functions, technical services of BPI and FPA. Activities geared towards sustainability include joint-agreements and/or multi-agency meetings among FPA, BPI and other organizational stakeholders.

In the institutional aspects, the PMDP/PTTC-related activities are evidently sustained in the interagency collaboration and joint activities between the PALs and FPA. Technically, the facilities and equipment are continuously utilized by the PALs to provide analytical services to target clientele. While the facilities and equipment are not utilized in accordance with the maximum capacity, technical sustainability, is completely dependent on the quality of maintenance and the technical life span of the facilities and equipment.

Financial sustainability, although positive, is seriously constrained. Although financial support is continuously provided, the level of actual disbursements is much lesser than the actual financial requirements of the post-PMDP activities on a year-to-year basis.

3-2. Factors that have promoted the project

Export/foreign market for Philippine fruits and vegetables. The export potential of Philippine fruits and vegetables seems limitless. Its economic impact to the agricultural sector is sufficient to encourage Filipino farmers *to continuously adhere to the global standards of quality control and Good Agricultural Practices.*

Outreach to rural areas. PMDP has increased the overall capacity of the PALs to provide analytical services to previously unserved rural areas.

Safe handling and proper use of pesticides. This is the main object of putting in place an effective pesticide residue monitoring system nationwide and the main focus for establishing a similarly effective and workable national food safety program of the country.

3-3. Factors that have inhibited project

Undefined sanctions for non-compliance with agreements/policies. Pertinent GOP-GOJ agreements did not specify accountabilities or sanctions for non-compliance (i.e., within a specific timeframe) vis-à-vis any of the specific provisions of the agreement.

Turfing is apparent, as evidenced by personnel protecting respective territorial jurisdictions or "higher office" positions.

Limited institutional capacity-building. The PMDP resulted to the expansion and upgrading of technical capabilities only; but not the overall and continuous institutional CAPACITY-building mechanisms for establishing an effectively operating pesticide monitoring NETWORK or SYSTEM, at a scale that the network/system captures the different agro-climatological conditions and agricultural practices in all provinces, cities and municipalities all over the country.

Too much focus on technology transfer. The Pesticide Residue and Formulation Monitoring Network had limited power and resources to enforce safe food policies (i.e. Police power to seize unsafe food before reaching market, confiscation of illegally imported pesticides registered/unregistered formulation, legal actions against violators, etc.).

Inadequate financial support. Funding support for post-project activities is not sufficient. The desired minimum number of activities to be used as indicators of an acceptable level of sustainability beyond 2002 have to be directly and officially defined, quantified and agreed by all concerned agencies

Limited coordination/communication. The BPI and FPA partnership remains fragile due to the limited communication and coordination. Unclear roles and tasks lead to unclear delineation of roles, functions and performance accountability centers within the multi-agency SYSTEM, such that, the System's effectiveness in the long run, is at stake.

3-4. Conclusion

Despite limitations, the positive impact of PMDP is clearly established across different parameters covering the institutional, technical and financial aspects of the project. Both impact and sustainability are very evident on the technical aspects but limited on the institutional and financial dimensions. Despite these, the PMDP-initiated activities are likely to be sustained because these are integrated in the mandates of FPA and BPI. In terms of establishing Philippine MRL for priority agricultural/food crops, post-project performance has been limited to the initial joint and multi-agency meetings between BPI, FPA and partner agencies. In terms of the long-term goal of delivering safe food to the market, the positive impact of PMDP is well-established in terms of overall capacity for detection of pesticide residues for Philippine crops exported abroad. However, the delivery of safe food items (i.e., free of pesticide residues or below MRL levels) to the local market remains too much to be desired.

3-5. Recommendations

1. In the light of Philippine fiscal crisis, it is recommended that GOP requests for additional technical and financial assistance from GOJ or other donor agencies. This is intended to address the national need to: (1) establish Philippine MRLs on priority crops; (2) sustain pesticide residue monitoring system at national target level of effectiveness; and (3) establish and sustain a comprehensive national food safety program.
2. Vigorous cooperation or tie-ups with tri-media organizations (within institutional, technical and financial contexts) that will provide pesticide analysis data findings especially on "daily fare" agricultural commodities such as rice, vegetables and fruits to increase public awareness and consumer demand for a healthy and safe-food environment.
3. In addition to the annual GAA allocations, BPI and FPA must jointly explore the legality of other revenue-generating measures vis-à-vis GOP financial (budgeting, accounting and auditing) rules and procedures. This may include joint private/public sector institutional schemes or MOA with industrial groups who need pesticide residue analysis to safeguard their products.

3-6. Lessons learnt

1. A keen appreciation of the most beneficial and more permanent institutional arrangements prior to program implementation increases stakeholder participation and improves prospects for sustainability.
2. Joint agreements may not be sufficient to ensure sustainability if a more permanent "higher office" may actually be needed, at the Undersecretary level, with mandate to continuously direct, supervise, coordinate and consolidate the efforts and performance outputs of concerned agencies within the Department of Agriculture.
3. Strong local institutional capacities or support from local government units (LGUs) may help maximize the impact and sustainability of technological capability-enhancing projects.
4. Technology applications can only go as far as cultural limits. Technology inputs are also subject to obsolescence even if these are coupled with acceptable cultural changes at the farm level.
5. Sustaining project gains, over the long run, is not only about technical capabilities. Sustainability relies most heavily on a continuous organizational CAPACITY-building support for the effective operations of a comprehensive and national food safety program.

3-7. Follow-up Situation

A Second Phase of PMDP is deemed necessary because the PMDP has only increased the technical capabilities of the PALs to provide internationally competitive pesticide residue analytical services. The Second Phase needs Official Development Assistance for the establishment of Philippine MRL and establishment/expansion of national and comprehensive food safety program which should capture regional, provincial, city and municipal conditions.

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1. INTRODUCTION

1.1 Background of the Pesticide Monitoring System Development Project (PMDP)

Background A Project Type Technical Cooperation (PTTC), the *"Pesticide Monitoring System Development (PMDP) in The Republic Of The Philippines"* between the Government of Japan and the Government of the Philippines was implemented in March 1997 to March 2002 (5 years). Towards the goal of ensuring a safe food supply in the market, the project aimed at developing a comprehensive monitoring system for pesticide residues and pesticide formulations in the Philippines.

The PTTC was provided by the GOJ with JICA as the executing agency. From the GOP side, the Department of Agriculture's two front agencies for pesticide monitoring, the **Bureau of Plant Industries** (BPI) and the **Food and Pesticide Authority** (FPA) were the lead implementing agencies and main beneficiaries of the PTTC project inputs.

Project History

The seeds of high-yielding rice were introduced to the Philippines in the 1970s, and the yield per unit area has increased.

However, large-scale cultivation of this high-yielding resulted in the heavy use of pesticides. Currently, insecticides and fungicides are mainly used, but the herbicide use has also been increasing. To ensure the safety of foods and protect the environment, the necessity for strengthening capacity to deal with the residual pesticides is becoming more apparent. Although the recommended standard (the Codex alimentarius) of the Food Standard Committee of FAO and WHO had been used as the

Project Framework:

PROJECT OVERVIEW
In order to establish a comprehensive monitoring system for pesticide residue and formulations, the Project transferred technology and skills to the staff of BPI and FPA and produced manuals.

OVERALL GOAL
Safe food within tolerable levels of residual pesticides is supplied to the market.

PROJECT PURPOSE
To develop a comprehensive system for monitoring residual pesticides and pesticide formulations.

OUTPUTS
1) Capability in pesticide residue and pesticide formulation analysis is improved.
2) Methods and technology of Supervised Pesticide Residue Trials in crops (SPRT) are improved.
3) Methods of Pesticide Residue Monitoring (PRM) are improved.
4) Necessary information to establish MRLs and the safe use of pesticides are provided to the relevant agencies.
5) Activities to disseminate safe bundling and the proper use of pesticides are improved.

INPUTS

JAPANESE SIDE:	
Long-term Experts	9
Equipment	118 Million Yen
Short-term Experts	13
Local Cost	53 Million Yen
Trainees Received	17
Others	
PHILIPPINE SIDE:	
Counterparts	46
Land and Facilities	
Equipment	
Local Cost	54.9 Million Pesos (143 Million Yen)

provisional standard in the Philippines, it was necessary to set up an original standard in line with the circumstances in the Philippines.

Against this background, the Government of the Philippines requested the Government of Japan to provide a Grant Aid Project to equip and improve the capacity of the Pesticide Analytical Laboratory (PAL) of the Bureau of Plant Industry (BPI). The Government of the Philippines later requested a Project-type Technical Cooperation from the Government of Japan to improve the pesticide administration of FPA in order to strengthen the activities of PAL and to ensure efficient utilization of analyzed data.

The overall goal of the project was to positively impact on the Philippines' Food Safety Program by assuring that safe food within tolerable levels of pesticide residue is supplied to the market for public consumption. For this to happen, the strategy was to develop a comprehensive ***system*** for monitoring residual pesticides and pesticide formulation and to maintain this system at the national target level of effectiveness (project purpose).

To do this, two lead institutions of the Department of Agriculture, the Bureau of Plant Industry (BPI) and the Fertilizer Pesticide Authority (FPA) had to be enabled such that their increased capabilities and capacity will put the system in place (Project Output). This involved inputs from Japan and the Philippines side that in turn allowed activities that created the 5 conditions or key areas of success that showed the strategy has been implemented:

Condition/Key Success Areas	DA point organization where it happens
1. Capability on Pesticide Residues and pesticide formulation analysis is improved	BPI
2. Methods and technology of Supervised Pesticide Residue Trials (SPRT) in crops are improved	BPI and FPA
3. Methods of Pesticide Residue Monitoring (PRM) are improved	BPI and FPA
4. Necessary information to establish Maximum Residue Limits (MRL) and the Pesticide Safe Use Direction are provided to responsible agencies	FPA
5. Activities to disseminate safe handling and proper use of pesticides are improved	FPA

1.2 Overview of the Ex-Post Evaluation Study

More than two years after the completion of PMDP in year 2002, an **ex-post evaluation study** is now in order. This is intended to provide JICA Philippines with pertinent data, information and analyses across the following grounds:

1.) impact of PMDP to the intended beneficiaries;
2.) sustainability of the activities initiated by PMDP;
3.) lessons from the PMDP experience;
4.) recommendations for the improvement of planning and implementation of similar projects in the future; and
5.) promotion of greater *accountability as well as transparency by disseminating evaluation* results to project stakeholders and the Japanese public.

1.3 Objectives of the Study

The general objective of this ex-post evaluation study is to answer the following evaluation questions:

1. **IMPACT:** Is the overall goal of "supplying safe food within tolerable levels of pesticide residue to the market" being achieved? If so, to what extent has the project contributed to this achievement, and what are the external factors that influenced the attainment of such goal? What are the positive, negative or unintended impacts that can be attributed to this project?

2. **SUSTAINABILITY:** To what extent has the implementing agency been able to sustain the outcomes/effect of the project, and how likely are these outcomes/effects to be sustained? If so, what factors contribute or inhibit the sustainability of Project outcomes/effects?

1.4 Scope of Consultant's Work

Based on the Scope of Work, items for study include:

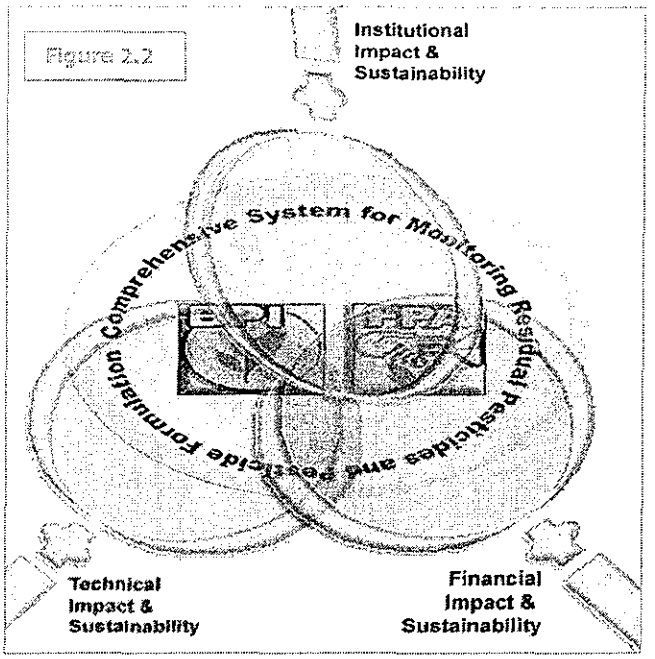
1. How the BPI and FPA define an effective SYSTEM for Pesticide Residue & Formulation Monitoring?

2. How the relationship is between BPI and FPA in the fulfillment of their roles in the system?

3. What the Project Level External Factors are that have direct or indirect influence on the impact?

Intem shall review the established comprehensive System for Monitoring Residual Pesticide and Pesticide Formulation using the lenses of **institutional, technical** and **financial** impact and sustainability (please see figure at right).

Figure 2.2



Though this ex-post study focuses only on the PMDP as a project type technical cooperation (PTTC), the consultant was aware that it takes-off from the development gains of an earlier Grant Aid by the Government of Japan ("National Monitoring Program on Pesticide Residue in Agriculture and Environment and Pesticide Formulation" that was completed in 1996) that helped establish a national ***network*** on pesticide residue monitoring (see figure 3.1).[1]

It is this network that plays a crucial role in driving the system and keeping it at the target level of effectiveness. It is also interesting to note that both the grant and PTTC sought to establish the national Minimum Residue Level (MRL), a critical indicator that the overall goal of an effective Food Safety Program has been achieved.

For this study, the hypothesis therefore, is that, the **effect of the project:** *safe food within tolerable levels of residual pesticides is supplied to the market* (the overall goal/main intended impact) **continues to be produced** at the time of study and **is likely to continue happening in the future.** If in the course of the study, we prove this true, then, JICA wants to know the extent of how the project contributed to this achievement (net contribution) and what are the external factors that influenced the achievement of this overall goal.

That this impact is actually being sustained and its likely prospects of being sustained in the future, is what this ex-post evaluation is mainly about. The main proof for this as far as the PTTC

[1] In fact, the request for the Technical Cooperation (TC) "situates the Grant Aid as the first stage and the TC as the second stage of this project: that is, the TC is to enhance the capability of PALS after the facilities and equipment are upgraded through the Grant Aid. It aims to support PALS to accumulate analysis data and the FPA to utilize the data for its administration of pesticide control." – *Basic Design Study Report on the Project for Improvement of the National Monitoring program on Pesticide residue in Agriculture and the Environment and Pesticide Formulation in the Republic of the Philippines,* Sept. 1994

is concerned, is that the comprehensive system for monitoring residual pesticides and pesticide formulation is still in place and is now being maintained at the national target level of effectiveness.

This should mean that:

1) The MRL is established or pre-conditions for its establishment are now well under way.

2) Policies on pesticide residue levels/MRL are being reinforced (for which we'd like to look at the records on banned pesticides/ traders slaped with penalties as an objectively verifiable indicator).

3) BPI's and FPA's current and immediate-future **institutional, technical** and **financial** capabilities for monitoring residual pesticides and pesticide formulation can be sustained.

Based on the literature review, it was gathered that the former terminal evaluation of PTTC concluded that all of the Outputs were expected *to be* achieved by the end of the Project and the Project Purpose *"to develop a comprehensive monitoring system"*, also, is expected to be achieved. To make the pesticide monitoring system more effective, continued Project activities and cooperation among the implementing organizations are necessary. In order to achieve the overall goal of ensuring a safe food supply, the accumulation of scientific data and enhancement of the coordination between BPI and FPA are necessary.

A summary of PMDP terminal evaluation results include the following impact and sustainability findings:

> ***Impact.*** There were a number of important positive impacts. Since the role of FPA and BPI was positioned systematically through Project implementation, cooperation both ways became closer. **It is difficult to say whether the role of FPA is sufficiently demonstrated, as the law scheme** has not been sufficiently prepared, but the FPA understands the meaning of BPI's offering a scientific basis to support its functions. The farmers, pesticide sellers and farming extension workers have become more conscious of the usage of safe and appropriate pesticides.
>
> ***Sustainability.*** The cooperation between the FPA and the BPI has been improved through the project, but it is necessary to maintain the relationship and apply the acquired skills and knowledge to the daily work.

In the financial aspect, the Foreign Aid Project Fund (FAPF), which the government of the Philippines allocated, would be discontinued when the Project is terminated, while the ordinary budget of PAL is not sufficient to support activities, including the maintenance of equipment. It is necessary to consider the consignment project fees as a source of income, and to endeavor securing a budget through cooperation with FPA. From the technical point of view, even though the skills of the counterparts have reached a certain level, it is not high enough for them to learn new analytical methods by themselves. Therefore, continued support is needed. In addition, some of the counterparts were not regular employees of the agencies, so it is important to concentrate the transfer of knowledge and skills on to those in the organization.

For this particular ex-post study, the impact of PMDP shall be assessed and the sustainability of PMDP-related activities shall be analyzed:

1. **Impact.** This involves an examination of the changes—policy, technical, institutional and financial—that took place after the PMDP completion in the year 2002 and comparing these with the overall goal and purpose of PMDP.

   1.1. **Policy/Institutional Impact.** INTEM will try to find out if the roles defined for BPI and FPA in the system during the PTTC has been changed or remain the same at the time of this study. If there are changes (current or expected) in the mandates or mission and strategy, organizational design of both BPI and FPA, consultants will determine if this is an intended or unintended impact of the PTTC and how this contributes to the continuous attainment of the project goal.

   1.2. **Technical Impact.** Consultants will study the current status of equipment and facilities of the National **Network** of Pesticide Analytical Laboratories (PALs) who are the front liners in the national monitoring program on pesticide residue in agriculture and the environment and pesticide formulation. Are these being maintained? Are these being maximized?

   1.3. **Financial Impact.** This lens will help determine the current and future cost of maintaining the system within BPI/FPA, so that they can fully contribute to the continuous attainment of the project goal.

2. **Sustainability** This includes an analysis of the PMDP-related policy matters as well as technical, institutional and financial activities that were continued—after PMDP completion in year 2002—by BPI and FPA as well as the benefits that were continuously enjoyed by the beneficiaries/clients (e.g., farmers, exporters, importers, etc.).

   2.1. **Policy/Institutional Sustainability** A look at the external environment such as support from the DA (supervising institution) and as mentioned, the necessary legislative setting/policy environment will help determine if conditions are favorable to the institution. This will include detecting emergent competition to the institution's available services.

   In the process, the Consultants will strive to gain a deeper appreciation of this ***system*** and the accompanying institutional arrangements for monitoring residual pesticides and pesticide formulation including the other stakeholders and their contributions towards the continuous attainment of the overall PMDP goal.

   In terms of capability/capacity what is the current personnel strengths of BPI and FPA? Are there enough warm bodies on the field and are their number and qualification levels up to par with actual service demands?

   2.2. **Technical Sustainability** INTEM would like to find out if there is a sustained program to maintain or upgrade personnel capabilities including other schemes for skill and knowledge transfer within the institution. In the current service delivery of BPI and FPA units, which activities in the 5 key success areas are being sustained and how are these services carried out now in contrast to how it was, immediately after the project?

   2.3. **Financial Sustainability** Knowing the actual and possible sources of funds and allocations helps point out prospects for financial sustainability. Is funding sufficient? How strong is the dependence on outside revenue?

In all of the above, the factors that contribute or inhibit the attainment of the PMDP's overall goal and the continuity of pertinent activities will determined and analyzed.

1.5 Evaluation Team and Study Period

JICA Philippines has commissioned the International Technology Management Corporation (INTEM) to conduct this Ex-Post Evaluation Study which commenced October 21, 2004 and for which field surveys were conducted up to November 26, 2004. Draft reports were prepared and submitted to JICA Philippines on December 17, 2004 for comments and suggestions. The further revised report is submitted on April 15, 2005.

Under the technical guidance from JICA Philippines office, the consulting services of Ms. Cristy G. Ututalum and Dr. Frede G. Moreno of the International Technology Management Corporation (INTEM), were engaged for this study. As part of INTEM's strategy to deliver the expected outputs of the study, it mobilized support staff (Assistant Surveyor and Typist) based in INTEM's Makati office.

2. EX-POST EVALUATION STUDY APPROACH

2.1 Approach and Methodology

In order to attain the objectives of the study, the Consultant reviewed available project documents which include the Record of Discussion, Terminal evaluation Reports and other relevant materials. Then the Evaluation Plan was prepared. This included the Evaluation grid and survey instruments based on technical inputs from JICA.

Upon review of available project documents and the proper appreciation the scope of the study, an Evaluation Plan that included the evaluation grid and survey instruments based on the given main evaluation questions and PDMe was prepared.

Data collection through analysis of project-related reports and the conduct of surveys in the targeted Study Areas ensued. A stakeholder analysis was conducted with project beneficiaries, discussions with former project counterparts and other stakeholders and direct observation of project-related activities, facilities and equipment. Study methods included interview survey, direct observation, questionnaire survey, key informant interviews and focus group discussions (FGDs). Please see Table 2.

The collected data was then analyzed for both quantitative and qualitative changes.

Due to limits in time and resources, the study focused on direct beneficiaries within the two implementing agencies, BPI and FPA to find both project impact and prospects for sustainability but some extra effort on the Consultant's part netted valuable interface with sector stakeholders (indirect beneficiaries)

2.2 Study Areas and Respondents

Study Areas include the BPI and FPA Central Offices within Metro Manila, Central and Satellite Pesticide Analytical laboratories (PALS) of BPI in Quezon City, Davao City, Baguio City, Camarines Sur, Cebu and Cagayan de Oro City as well as the DA Regional Field Units and FPA Field Offices in Davao City, Camarines Sur, Baguio City, Cebu and Cagayan de Oro City. Please see Table 1.

Table 1. Scale and Coverage of Study Sites

Location	DA	BPI		FPA	No. of Study Sites
Central Office	X	BPI Central X	BPI NPAL X	X	4
Regional Offices					
CAR Baguio	X	X			2
I. La Union				X	1
V. Camarines Sur (Pili)	X	X		X	3
VII. Cebu (Mandaue)	X	X		X	3
X. Cagayan de Oro	X	X		X	3
XI. Davao	X	X		X	3
Total Study Sites					20

Notes -BPI – PAL Sites are Regional sites. Note that there is no FPA Regional Office in CAR Baguio.

In a nutshell, there were a total of 53 persons included as respondents of this ex-post evaluation study. About 87.75% or majority were direct beneficiaries of the project while About 12.25% were indirect beneficiaries (see Annexes A, B and C for details).

Stakeholder Class	Total Respondents	Percentage
Direct Beneficiaries (BP[I]	38	71.70%
Direct Beneficiaries (FPA)	9	16.98%
subtotal	**47**	**88.68%**
Indirect Beneficiaries	6	11.32%
Total	**53**	100.00%

2.3 Project Design Matrix for Evaluation (PDMe)

Table 2.1 shows the PDMe provided to the Consultant. **Figure 2.1** was drawn up by the Consultant on the basis of said PDMe. This gives a visual appreciation not only of the inputs, activities, outputs and outcomes in relation to the overall goal but also points out where the study team should be looking (points of investigation). It clarifies the main hypothesis that will either be proven right or wrong by the study.

Please note that the PDMe provided to the Consultant was re-crafted based on the Consultant's scope of work The re-crafted PDMe is presented in Chapter 3-Findings/Study Results, particularly the section on impact analysis.

Table 2.1 Project Design Matrix for Evaluation (PDMe)

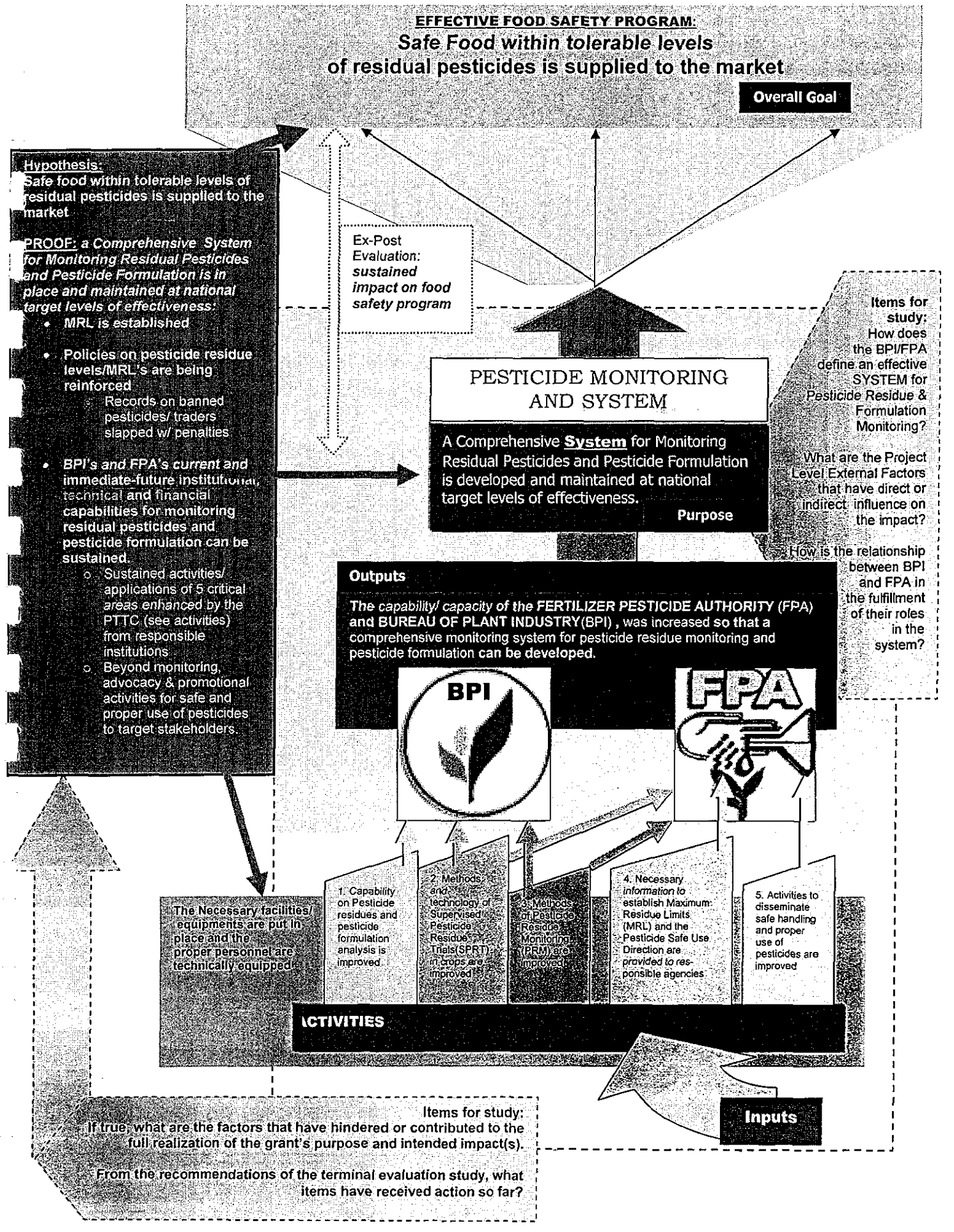
Project Name: Pesticide Monitoring System Development in the Republic of the Philippines
Duration: March 1997 to February 2002
Target Area: The Republic of the Philippines
Target Group: BPI's and FPA's Staff

NARRATIVE SUMMARY	OBJECTIVE VERIFIABLE INDICATORS	MEANS OF VERIFICATIONS	IMPORTANT ASSUMPTION
OVERALL GOAL Safe food within tolerable levels of pesticide residue is supplied to the market.	• Necessary measure such as trading ban can be taken when the crops of which the pesticide residue level exceeds the MRLs.	• DA's quarterly statistics • Records on the trading ban	1. Abnormal weather does not affect the target areas. 2. Unregistered pesticide formulations are not imported illegally. 3. Imported crops are inspected regularly
PROJECT PURPOSE To develop a comprehensive system for monitoring pesticide residues and pesticide formulation	1. Information on the registered pesticide is kept in good order. 2. Pesticide Residue Monitoring and activities to disseminate the safe and proper use of the pesticide are implemented continuously. 3. Systematic and scientific monitoring of pesticide is implemented continuously 4. Systematic SPRT is implemented continuously.	• Results of Pesticide Residue Monitoring in the crops. • Records of detection of the crops of which the pesticide residue level exceeded the MRL on the trading ban. • Records of the pesticide formulation analysis.	1. PAL's technical staff and field staff are properly allocated. 2. The farmers use the pesticide in a safe and proper manner.
OUTPUTS **1. Capability on pesticide residue and pesticide formulation analysis is improved.**	1-1. All the PAL staff in charge of the residue analysis can analyze the pesticide in 29 crops by 14 methods newly introduced. 1-2. All the PAL staff in charge of the residue analysis can analyze 14 pesticides in 5 crops by the methods for Multi Residue Analysis newly introduced. 1-3. All the PAL Staff in charge of the formulation analysis can analyze 31 active ingredients by 12 methods using the HPLC. 9 methods using the GC and methods of titration and colorimetry. 1-4. All the pesticide formulations registered in the Philippines can be analyzed.	1 Questionnaire to the C/P on the analytical skill 1 PALs records of analysis 1 Records of the training course 1 Situation of the manuals preparation 1 Identification of the reports to the FPA	
2. Methods of Technology Supervised Pesticide Residue Trials in crops (SPRT) are improved.	2-1 FPA Staff is able to prepare guidelines for the SPRT. 2-2 BPI staff are entrusted to the SPRT by pesticide formulation manufacturers on contract and is able to conduct the SPRT compatible to the international requirements.	2 Questionnaire to the C/P on capability of guideline preparation and evaluation of the results 2 Records of the SPRT 2 Situation of the manuals preparation	
3. Methods of Pesticide Residue Monitoring (PRM) are improved.	3. The C/P in charge can conduct the Pesticide Residue Monitoring Survey for priority combinations of 5 crops and 14 pesticide in cooperation with the safe line PALs.	3 Situation of the manuals preparations of the Pesticide Residue Monitoring 3 Identification of staff allocation and implementation organization 3 Records of the Pesticide Residue Monitoring Survey	
4. Necessary information to establish MRLs and a safe use direction of pesticide are provided to the relevance agencies.	4. The C/P in charge understands the series of procedures to establish the MRLs and can collect necessary data	4 Questionnaire to the C/P on the procedure to establish the MRLs 4 Identification of the information provided to the relevant agencies.	
5. Activities to disseminate safe banding and proper use of pesticide are improved.	5-1 The C/P in charge (mainly FPA staff) understands the current situation of farmers and prepares information necessary to the manufacturers, dealers and the farmers and provides it to the relevant agencies. 5-2 The C/P can prepare the training programs for the relevant agencies to conduct the training course.	5 Records of questionnaire survey of the farmers 5 Identification of information provided to the manufacturers, dealers and the farmers 5 Training programs and seminars texts for the relevant agencies	

ACTIVITIES	INPUTS	PRE-CONDITIONS
1-1 To introduce more appropriate methods to analyze pesticide residue. 1) Acquisition of skills in operating new instruments which provided by the Grant Aid. 2) Introduction of extraction and clean-up methods. 3) Introduction of methods for Multi-Residue Analysis. **1-2 To update and prepare manuals for the residue analysis.** **1-3 To introduce more appropriate methods to analyze pesticide formulations.** 1) Acquisition of skill in operating new analysis instruments which were provided by Japanese Grant Aid. 2) Introduction of appropriate methods for chemical and physical analysis. 3) Monitoring of pesticide formulations **1-4 To update and prepare manuals for the formulation analysis.** **1-5 Training of the staff to analyze the pesticide residue and pesticide formulations.** ========== **2-1 Determination of priority combinations of crops and pesticides.** **2-2 Introduction of appropriate methods and technology of the Supervised Pesticide Residue Trials in crops (SPRT).** **2-3 Training of staff in charge of the SPRT.** **2-4 Preparation of manuals for the SPRT.** ========== **3-1 Introduction of more appropriate methods for the Pesticide Residue Monitoring.** 1) Review of current methods for sampling 2) Review of methods for the pesticide monitoring in other countries 3) Improvement of methods for the Pesticide Residue Monitoring (FPA and BPI jointly determine the pesticide and crops to be analyzed and require the budget) ========== **4-1 Introduction of more appropriate methods to estimate the Food Factors from the National Food Consumption Survey in order to establish MRLs.** **4-2 Estimation of the Food Factors to establish MRLs** **4-3 Scientific advice to the relevant agencies to establish MRLs and to prepare the safe use direction of pesticides.** **5-1 Planning and designing training program for the safe use of pesticides.** **5-2 Preparation of information on the safe use of pesticides.** **5-3 Planning of training to promote safe use of pesticide and its implementation.**	**Japanese Side:** (1)Dispatch of Long-term Experts 1) Team Leader 60.0 MM 2) Project Coordinator 60.3 MM 3) Pesticide Residue Analysis 54.7 MM 4) Pesticide Formulation Analysis 24.0 MM 5) Supervised Pesticide Residue Trials in Crops 60.8 MM 6) Dissemination of Safe Use of Pesticide 41.8 MM (2) Dispatch of Short-term Experts 1) Pesticide Residue Analysis 4.0 MM 2) Pesticide Formulation Analysis 2.0 MM 3) Supervised Pesticide Residue Trials in Crops 8.5 MM 4) Pesticide Residue Monitoring 5.3 MM 5) Dissemination of Safe Use of Pesticide 3.0 MM 6) MRL establishment 3.4 MM 7) Registration System 2.0 MM 8) Project Evaluation by PCM 0.3 MM (3) Acceptance of Philippines Counterparts C/P training in Japan: Total 31.6 M/M for 17 persons. (4) Provision of Machinery and Equipment (Million JPY) 1) Provided Equipment 108.016 2) Accompanied Equipment 10.421 3) Japan's expenses for local cost 53.127 **Philippine Side:** (1) Project Staff 1) Project Director 2) Deputy Project Director 3) Project Manager 4) Research Staff and Other Administrative Staff (2) Land, Buildings, Facilities and Equipment (3) Budget for Project Management and Running including the budget to purchase reagents. (4) Experiments Fields for the Supervised Pesticide Residue Trials in Crops * Figures to be provided at the end of the Project	1. Necessary number of staff are allocated in to the project 2. PALs technical staff and field staff are properly allocated 3. Necessary material and utilities such as reagents, electricity, water, gas, etc. are supplied in a secure condition. 4. Experimental field for the supervised pesticide residue trials in crops are available and well maintained 5. Staff to deliver information to the farmer are available 1. Budget and staff allocated to the FPA and the BPI 2. PALs are constructed and equipment are installed on schedule by the Grant Aid 3. The relevant agencies understand the Project well and play each role required.

2.4 The Logical Framework

Figure 2.1: FRAMEWORK APPRECIATION DIAGRAM for PMDP



2.5 The Revised Impact Diagram (Framework for Assessing the Impact of PMDP)

Figure 3.1 below, illustrates intended impacts of the project and shows where the two interventions (Grant and PTTC) converge assuming the intended impacts have been achieved (as assumed by their terminal evaluations). To trace this, it was necessary to consider the supergoal. The figure helps clarify that though these interventions (Grant & PTTC) were independent of each other, and had their own mechanisms, by original design and purpose, they were really meant to complement each other. (as confirmed in earlier cited *Basic Design Study Report on the Project for Improvement of the National Monitoring program on Pesticide residue in Agriculture and the Environment and Pesticide Formulation in the Republic of the Philippines*, Sept. 1994) This particular study however, limits itself to the PTTC.

The diagram/s helped the study team appreciate the relationships and dynamics involved in this study and why the study sites for both Post Project Assessment Study and Ex-Post Evaluation Study seem to converge. Having gained such appreciation, a second look at the given PDMe and the diagrams can point out new items under the "IMPORTANT ASSUMPTIONS" column between Project Purpose and Overall Goal.

The re-crafted PDME (see below) should thus include the following items under Important Assumptions which may or may not be within immediate influence of the Project:

NARRATIVE SUMMARY	OBJECTIVE VERIFIABLE INDICATORS	MEANS OF VERIFICATIONS	IMPORTANT ASSUMPTION
OVERALL GOAL Safe food within tolerable levels of pesticide residue is supplied to the market.	• Necessary measure such as trading ban can be taken when the crops of which the pesticide residue level exceeds the MRLs.	• DA's quarterly statistics • Records on the trading ban	1. (Internal) MRL is established. 2. (Internal/External) Healthy and vigorous relationship maintained between BPI and FPA 3. (external/internal) System is comprehensive enough to cover all strategic information capture points. (Other agencies are integrated into the system for wider coverage; Imported crops are also inspected regularly) 4. (external) Sufficient funds remain available to maintain national targets of effectiveness for monitoring pesticide residue and formulation 5. (external) Network has enough power and resources to enforce safe food policies (i.e. Police power to seize unsafe food before reaching market, can capture illegally imported pesticides registered/unregistered formulation) 6. (external) Production of safe food unhampered by *force majeur* (*abnormal weather does not affect the target areas.*

1. The first important assumption is that the **MRL is already established** so that solid basis is established to enforce necessary measures such as trading bans when crops

exceed the minimum pesticide residue level. This is an internal factor with the PMDP Project and an assumed outcome per original design.

2. Another very important assumption which could both be internal and external factor towards achieving and sustaining the overall goal is that: a **healthy and vigorous relationship is maintained between BPI and FPA with mechanisms in place for full cooperation and complementation.**

   - **External:** This is beyond the direct influence of the project as it involves how the entire DA bureacracy is structured and the dynamics of each organization's fiscal and leadership structure then, at project time and now at ex-post study time. This institutional environment, particularly how its structure is designed, if any change occurs has direct bearing and impact on the operations of BPI and FPA and how both are able to move within the system particularly at central and field levels.

   - **Internal:** On the other hand, this means that the roles of each organization within the structure of the national pesticide monitoring system is clear and fully appreciated by each. All actors within the system should have internalized their roles. Again, this assumes a lot of initiatives in terms of **communications and relationship building** efforts from major decision makers of both BPI and FPA. (*Study team at this point was not sure if there was somehow, a strong intention of the PTTC to make this part of its implementation strategy as there seems to be little or no activity designed for such*)

   - "Mechanisms in place" should mean **funds available for inter-agency coordination.**

   If these would be a setback, (as confirmed later by the Study) then the entire sustainability of the PMDP Project is affected.

3. Another possible important assumption is that, even if a comprehensive system for monitoring pesticide residues and pesticide formulation was developed (Project Purpose), safe food within tolerable levels of pesticide residues are supplied to the market (Overall Goal) can only be true under the following conditions:

   - That this National Monitoring System is **comprehensive enough**—at the national level—**to cover all city and municipal market places** for food crops sold locally; entry points (quarantine level) for imported vegetables/agri-produce; and exit points for Philippine exports (export clearance level). This necessitates the integration of other strategic players/stakeholders within the system such as DTI and the LGU's. (There may be some mechanism to converge said players into an effective machinery for this particular food safety agenda).

- If the monitoring system is comprehensive enough to cover all strategic points, the key result area would still be ***overall capacity for "DETECTION" of pesticide residues that exceed the MRL levels, and are therefore, considered unsafe for human consumption as well as harmful to human health.*** A more pro-active approach to ensuring safe food within tolerable levels of pesticide residues are way beyond the overall organizational capacities of both BPI and FPA. Neither BPI nor FPA have enough resources or authority to completely monitor, impose penalties or sanctions to producers, farmers, traders or vendors for selling and distributing non-safe food items in the markets or even at harvest time.

4. Of course, one must assume that enough resources are available for national target levels of effectiveness and that the system will not be vulnerable to shifting political and/or economic priorities by the incumbent administration. Enough power and resources could only be provided through legislative actions. Thus, the sub-assumption is that enough laws should be in place and resources should also be available to strictly enforce such laws.

5. The sixth assumption of course refers to the production capacities and capabilities of local producers that are ideally unhampered by adverse weather conditions or natural disasters such as but not limited to typhoons, floods, draught and infestation, among others.

The logic check would state that **if** the comprehensive system for monitoring pesticide residues and pesticide formulations is developed (project purpose); **provided that** the above mentioned conditions (important assumptions) hold true; **then** we know the system is maintained at national target levels of effectiveness. This implies that necessary measures are taken when pesticide residues in crops at farm and market levels the MRLs (objectively verifiable indicator). If this is true, it is therefore safe to conclude that safe food within tolerable levels of pesticide residue is supplied to the market (overall goal).

Figure 3.1 : DIAGRAM OF INTENDED IMPACTS FOR THE
NATIONAL MONITORING PROGRAM ON PESTICIDE RESIDUE IN AGRICULTURE & ENVIRONMENT**(GRANT)**
PESTICIDE MONITORING AND SYSTEM DEVELOPMENT **(PROJECT TYPE)**