

**NATIONAL IRRIGATION ADMINISTRATION
THE REPUBLIC OF THE PHILIPPINES**

**JICA PREPARATORY SURVEY
FOR
SECTOR LOAN
ON
REHABILITATION OF IRRIGATION FACILITIES**

FINAL REPORT

VOLUME - III

ANNEXES (2/2)

SEPTEMBER 2009

JAPAN INTERNATIONAL COOPERATION AGENCY

**NIPPON KOEI CO., LTD.
SANYU CONSULTANTS INC.**

JICA Preparatory Survey
for
Sector Loan on Rehabilitation of Irrigation Facilities

Final Report

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Final Report

Annex B

Records of Workshop and Focus Group Discussions

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Annex B-1

Records of Workshop and Focus Group Discussions In Region-1

Table B1-1

**Summary of Local Issues, Problems, Request and Counter Schemes on FIAs/ IAs
Commented in the Focus Group Discussion in Region 1**

Item	Issues and Problems	Requests	Counter Schemes
1. Physical problems on NIS	<ul style="list-style-type: none"> a. Damaged irrigation facilities due to past and recent calamities. b. Damages of headworks due to silted canals. c. Excessive quarrying at the downstream areas. 	<ul style="list-style-type: none"> a. Provision of heavy equipment for timely maintenance. b. Excavation of sediment in river and construct flood control facilities. 	
2. Design and supervision of construction	<ul style="list-style-type: none"> a. Poor functionality of irrigation facilities due to faulty design and construction. 	<ul style="list-style-type: none"> a. Participation of IA in design and construction. 	
3. Maintenance	<ul style="list-style-type: none"> a. Untimely maintenance work due to poor preparation of financial plan. 	<ul style="list-style-type: none"> a. Change mechanism on ISF collection (2nd and the 3rd croppings) to increase ISF share to the IA for maintenance fund. b. Community involvement in maintenance works. c. Closer coordination with LGUs in maintenance and construction. 	
4. Operation			<ul style="list-style-type: none"> a. Realization of full turn-over of irrigation facilities that are within the capability of the IAs
5. Participation of IA in the project implementation.	<ul style="list-style-type: none"> a. Poor information communication on the construction due to non-dissemination of implementation to the IA. 		<ul style="list-style-type: none"> a. Establishment of aggressive participation mechanism of IA in design, construction and O & M works . b. Reactive federation of IAs.
6. Agricultural Support Service	<ul style="list-style-type: none"> a. Capacity to engage in other livelihood activities is limited due to shortage of production capital and lack of skills on other income generating projects, besides rice farming. 	<ul style="list-style-type: none"> a. Construction of dry yard or solar dryers. 	<ul style="list-style-type: none"> a. Savings mobilization among members in order to establish a micro-lending program for IA members and fund for training on livelihood.
7. Institutional		<ul style="list-style-type: none"> a. Intensify tree planting in watershed area. 	<ul style="list-style-type: none"> a. IA initiates advocacy campaign in maintenance works through involvement of community using schools as the media of campaign.

Table B1-2

Summary of LGU's Local Issues, Problems, Counter Schemes on Rehabilitation Works of NIS Commented in the Focus Group Discussions in Region 1

Item	Issues and Problems on Rehabilitation Works of NIS	Counter Schemes
1. Suitability of regional development program.		
2. Staff Resource for Counter Schemes	<p>a. Low priority for irrigation vis-à-vis farm to market roads due to lack of technical skills of LGU personnel to evaluate technical specification for irrigation.</p>	<p>a. LGU initiates training and upgrade technical skills of its engineers by inviting resource persons from the key line departments and/or national agencies (e.g. NIA, DPWH.)</p>
3. Financial Aspect	<p>a. Low budget support for the agriculture sector (Php 1.2 - 1.5 million/year).</p>	
4. Participation to the Project Implementation	<p>a. Non-involvement of LGUs in project implementation by NIA, especially for nationally funded and initiated by NIA.</p>	<p>a. LGUs take actions on information awareness on the Project implementation through local communication media.</p>
5. Support to Ordinary O & m	<p>a. Low priority for irrigation O & M vis-à-vis farm to market roads, especially after severe calamities.</p>	
6. Agricultural Support Service		
7. Institutional	<p>a. Limited coordination between NIA and LGUs in O & M due to lack of steering/ coordination committee at LGU level.</p>	<p>a. LGU establishes a coordinating/steering committee at the provincial level to improve coordination and representation of NIA in local planning and budgeting.</p>

HIGHLIGHTS OF THE REGIONAL WORKSHOP Re: PREPARATORY SURVEY FOR SECTOR LOAN
FOR REHABILITATION OF IRRIGATION FACILITIES (SLRIF)
VENUE: URDANETA GARDEN RESORT
DATE : MAY 18, 2009

PART I – OPENING PROGRAM

➤ INVOCATION & SINGING OF PAMBANSANG AWIT –

- The activity was formally started at 9:00AM by an opening prayer led by Engr. Leonila G. Fernandez, followed by the singing of the Pambansang Awit led by Ms. Teresita Lety G. Tandoc.

➤ WELCOME ADDRESS – Regional Manager JOHN N. CELESTE

- ❖ Regional Manager John N. Celeste in his message, warmly welcomed all the participants composed of the JICA Survey Team namely, Mr. Shoichiro Ban, a Consultant of JICA; Engr. Rey Villanera, Engr. Doris Camaya and Engr. Idefonso Custodio, Jr. all from Central Office and all NIA Region I Officials. He said that the Workshop under the auspices of the JICA, primarily centered on preparatory survey which is the 1st step of irrigation development was very important to the Region. He said that all the systems of Region I have already been undergoing its Operation & Maintenance which is the 4th stage. But it has been back to the 1st stage due to some set backs in the management of IAs and irrigation facilities. He further said that NIA Region I has been busy in its activities as the region is the lowest in the evaluation of all regions in terms of cropping intensity (CI) which is only 118%. He said, many things still have to be improved in the National Irrigation Systems because low CI follows low Collection Efficiency (CE) and poor irrigation facilities contribute to poor water distribution. With this low CI and CE, he said, the viability of NIA Region I is affected, thus, it is necessary for the region to review its existing NIS and conduct an inventory. "As we have already conducted, we would like to thank our Consultant for this very important workshop because these data can be used not only for the sake of loan for rehabilitation of irrigation facilities, but also for our funding for CY 2009 and 2010," he said. He is looking forward to the success of the workshop.

➤ INTRODUCTION OF PARTICIPANTS – All the 31 participants of the workshop have individually introduced themselves.

➤ PROJECT BACKGROUND – Engr. DORIS CAMAYA, JICA Team counterpart

- ❖ Engr. Doris Camaya said that the team is in Region I for a very important purpose after the JICA SLRIF have chosen 11 NISs among the candidates for rehabilitation. These candidates however, are still for finalization after the workshop.
- ❖ As a backgrounder, she said that the purpose of SLRIF is to adjust the problem of declining functions of irrigation facilities resulting to the decrease in agricultural productivity. In 2004-2006, the JICA conducted a Study in Maintenance, Rehabilitation and Methodology of National Irrigation Systems (NISs), result of which became the benchmark of SLRIF. The NISs who ignored the survey, were automatically not included in the SLRIF Preparatory Survey, so that the JICA Team was glad that Region I complied with the Survey. She mentioned the timetable set by the JICA Survey Team as follows: Preparatory Survey started last March and its Survey Form will be submitted end of May; Finalization of considerations to the inclusion of the listing will be up to July; the Draft Final Report should be submitted end of July and Final Report should be submitted at end of September. She said that due to the very limited time, she encouraged the participants to support the team for the JICA to complete the preparatory survey especially the filling up of the survey forms. She acknowledged the best effort and supports of everyone especially the JICA experts including Mr. Sato, Mr. Kihara and Mr. Ban, Consultant, JICA and whole NIA Region I Team headed by Regional Manager John N. Celeste.

PART II –

- EXPLANATION OF THE PROPOSED JICA-SLRIF PROJECT (Physical Components, Institutional "soft" Component, Field survey activities and expected inputs from Region I) – Mr. SHOICHIRO BAN, Consultant, JICA
 - ❖ He explained that the Preparatory Survey on SLRIF is a mutual agreement between the two countries, Philippines and Japan and both governments need feasibility study of the NIS, so the JICA Team was commissioned to do the Preparatory Surveys. The JICA Consultant will meet with the Phil. Government in September, 2009 for discussion of their report. Final discussion with both governments is expected after the issuance of the report, then work is expected to commence by end of 2010 -2011.
 - ❖ He lauded the improvement program for NIS and the IMT but which is somehow influenced by the Rationalization Program of NIA.
 - ❖ Process of the survey –
 - In 2006 JICA has conducted a special study concerning selection of NIS and nominated some projects covering 99 IAs. And back in CY 2003 a survey concerning the strength of the Irrigators' Associations was also conducted, on how to make improvement program for the IAs, where Paoay Ilocos Norte was involved in extension of the 2 JICA studies and added one more to update the previous information to make the selection criteria for sabo dam project.
 - Region I & 4 in Luzon and Regions 10 to 13 in Mindanao are included in the short listed NIS for Rehabilitation. The listing is the result of NIS data gathering by the JICA which also involved the potential improvement and strength of the IAs. These two combined together should result to the qualification of the regions to the proposed SLRIF. (e.g.) Reg. 1 was found to have great potential for improvement work, combined NIS & IAs, thus, the rehabilitation project. One would not do without the other. Both aspects should pass JICA's evaluation.
 - Twenty- seven (27) NIS projects for six (6) Regions covering Regions 1, 4, 10, 11, 12 & 13 were nominated for preparatory survey. Eleven (11) projects of which were selected from Region 1, namely: Ilocos Norte - Laoag-Vintar, Dingras, Madongan, Solsona, Labugaon, Papa; Ilocos Sur - Tagudin, Sta. Lucia-Candon; La Union – Amburayan; Pangasinan - San Fabian & Dumoloc. If found suitable, the rehabilitation project will start, end of 2010.
 - ❖ Selection Measure –
 - Nationwide, 209 NIS were involved in the survey. Other donors like World Bank, ADB and other banks have started their rehabilitation to some projects using new or existing loans. Three screenings were undertaken by the JICA Team and only 27 NIS were found eligible thus, included in the list after the 3rd screening, considering the engineering aspect, the functionality of NIS & water resource availability (sustainability of watersheds,) etc. Although after the 3rd screening, another component would again be considered to assure feasibility of the project. JICA's investment would be at risk so that JICA will have to do some precautionary measures – should be selective for better NIS for rehabilitation works. Good potential, good return. If a NIS is evaluated as "small", it would rather be transferred to the LGU for IMT and select more suitable model (scale size, say 1,000 hectares).
 - After 2003 JICA study, the team gave some recommendation for the improvement or strengthening of IA functions and on how to improve ISF collection. Maybe Region I has tried so much effort on this one. If JICA finds out some more discrepancies especially in the field condition, replacement could be done. And if it passed the JICA eligibility criteria, NEDA would be the last consideration as to its feasibility.

❖ Drafting of Final Report –

- The field investigation, meeting with stakeholders for priority sub-projects will be done at the site from May to June 2009. Main work for finalization of the project proposal was shown especially the IDD and IMO concerns.
- Workshop will be done at Central Office next week where matching will be done again – IMT and updates of O&M Contracts for various Types I, II, III; Constraints, No. of Staff, capacity which will involve trainings. To examine the next stage.
- For input – Agronomist, Environmentalist and Engineering Cost Estimator.

ISSUES/CONCERNS	ACTION/RECOMMENDATION
<p>1. Engr. Nemesio Ines –</p> <p>Laoag Vintar, Dingras and Marcos RIS are under Type II; Labugaon, Solsona and Papa were already turned over to farmers but under special project so we need not transfer it through IMT. So it is for the IDD people to help them so they can help the IMT.</p> <p>2. Engr. Sergio Martinez –</p> <p>As seen in the schedule, May to June is the estimation of Project Cost and Loan. The question is the renovation of the structure because we have a series of vertical drops and if we will combine into 5m height of vertical drop as taught to them in San Quintin project when the consultant want to replace. Why they were not able to introduce a current production for every 5m of vertical drop of structure. Can we also apply that principle in INIP II – Palsiguan River Irrigation Project?</p> <p>3. Engr. Martinez's follow up question – a high dam (Sabo Dam) overlooking their structure Madongan RIS.</p> <p>If we see the sabo dam, we can utilize it as our main dam but the existing dam was re-designed and having revisions from time to time. Can we use the dam for electricity? Can we use it as main dam without rehabilitating the existing old dam?</p>	<p>1. Mr. Ban –</p> <p>There should be practical number of IDOs. How many IDOs are available? What kind of program could be placed under your approach? Why? I told you last time; this is a project-formulation project. Maybe these persons are Engineers. I myself am also a Civil Engineer. In that case we consider only Engineering aspect – feasibility, etc. We forget how to sustain additional work input in this investment. But we want to count this one in the list for Sectoral Loan. We also try to find out a good component that can be connected to Agriculture, Aquaculture, Post Harvest and this Institutional strength. What kind of program you need. You said Trainings. But you have done so many trainings up to this time. What is the result now?</p> <p>2. We can consider inputting this as this is just a minimal request. . But this kind of estimation will also be NEDA's concern.</p> <p>3. In this sector we cannot cover new dam concern; only rehabilitation. Sabo dam is built in the absence of the main dam. But this time we can't count it. Noted.</p>

<p>4. Engr. Dolores Nicer –</p> <p>As of now, all the dams, Labugaon, Madongan, Papa, etc. are deteriorated and are being designed for placement, not rehabilitation, as there are many problems downstream of the existing dam and are failing. So, dams are not included for rehabilitation. Stability of dams is in question as of now. If we could not include them, water could be a big problem too.</p> <p>5. Engr. Helsy Bermudez –</p> <p>Could we include also rehabilitation of Offices? Gatekeeper's quarters and Field Office?</p>	<p>4. We will try to confirm the situation by visiting the site.</p> <p>5. The answer was affirmative.</p>
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- ❖ Survey Forms/Questionnaires as to the data needed were distributed. Mr. Ban explained thoroughly how the forms are to be filled up and what items are to be deleted. Output/response is expected one week from today. Personal submission to the JICA Office @ NIA, CO - May 26 to 27, 2009 in the morning.
- ❖ A video footage was presented, showing the Image Model Tertiary Facilities for an Irrigators' Association in Indonesia funded by JICA., a Pilot Development. A dream facility likened to a small community complete with all the amenities such as a small market area, entertainment area, fish pond, water treatment system connected to irrigation canal, rice paddies, etc. and an IA Office which could be mistaken to a house built in a posh subdivision; which could also be done to the IAs in the Philippines particularly in Region I if condition warrants.
- Closing Remarks – Engr. Helsy S. Bermudez –
 - ❖ He thanked the JICA for having considered NIA Region I NIS in preparatory survey. He hoped that the task given to NIA will be completed on May 26 and submitted on time because he said, " Early bird catches more worms."
- ADJOURNMENT – The workshop was adjourned @ 3:15PM.

Documented by:

ADORACION DA. SORIANO

NOTED:

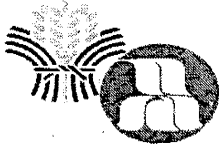
JOHN N. CELESTE, DPA
Regional Manager

**JICA-SECTOR LOAN ON THE REHABILITATION OF IRRIGATION FACILITIES (SLRIF)
WORKSHOP
URDANETA GARDEN RESORT, URDANETA CITY, PANGASINAN
MAY 18, 2009**

ATTENDANCE SHEET

NAME	OFFICE/POSITION	SIGNATURE
1. Leonila G. Fernandez	Pang. IMD / Sr. Engr. A	
2. Dolores C. Nices	Chief Planning & Design Section	
3. Nieves H. de Guzman	NIA / IDD / Urdaneta / IDD Chief	
4. Renato P. Millan	OIC - Pang. IMD	
5. FRIDA L. NIDOY	IS - SAN FABIAN - DUMOGUE	
6. AELYS, BELTRUDEZ	OIC - ETO	
7. Danilo V. Gomez	OIC - L/IMD	
8. John N. Celis	RIM	
9. Lelito G. Valdez	OIC/AFD	
10. ROBERTO G. ANGLE	DIVISION MGR.	
11. CIRRIANO Y. YABUT	LARIS	
12. RANDY F. PATINYO	ADMS / SR WZPI	
13. WILBERTO M. PILETO	ADMS / SR WZPI	
14. Joseph R. Furer	Operations Sect. / RIO	
15. SERGIO F. MARTINEZ	OIC - INIS	
16. ROMESIO Y. INAS	NIA - INIS & Engr B	
17. TERESITA LETY G. TANDON	IDD / SIBO	
18. SUSIMO G. DOMINGO	DRM / EA	
19. GABRIEL M. DE VERA	NIA - AMNIS	
20. ADRIANO F. AMANO	NIA ILOCOS SUR / IMD	
21. W/ DRIVER		
22. CARLOS F. BARAHONA	NIA - ROSALES & ADMS	
23. ANTONIO V. IMBISAN JR.	NIA INIS	
24. ROLANDO T. DUSTO	KSP W	
25. DOUGLAS V. MARAMBA	NIA - ROSALES & AURIS	
26. JERRY C. ANTONIO	NIA - LA CAROLAN	
27. RICARDO AFREAL	NIA - RIO	
28. ADOACION DA. SORIANO	NIA RIO	
29. ISIDORA M. CAYATA	NIA - C.O.	
30. REYNALDO B. VILLANERA	NIA - C.O.	
31. ROFONSO E. CUSTODIO JR.	NIA - SMO - C.O.	
32. Shochiro BAN	JICA Consultant	
33. ALBERT RANGANIBAN	NIA / DRIVER	
34. ZONA PEWARANDA	W/D / DRIVER	
35. MARIANO GACHO	NIA - IN	
36. ARSENIO V. FERNANDEZ	NIA - IN	
37. LUISITO MARTIN	NIA - IN	
38.		

Region 1



Republika ng Pilipinas
Department of Agriculture

Pambansang Pangasiwaan ng Patubig
(NATIONAL IRRIGATION ADMINISTRATION)
ILOCOS NORTE IRRIGATION SERVICE

LABANAN
ANG
KAHIRAPAN



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May 27,
2009

MINUTES DURING THE FOCUS DISCUSSION ON SECTOR LOAN FOR REHAB OF IRRIGATION FACILITIES held at the Palazzo de Laoag Hotel, Laoag City on May 25, 2009.

The Focus Discussion as planned was grouped into two; the Irrigators Association Leaders in the morning session while in the afternoon session are the Municipal Agriculturist & Planning Officers from LGU's.

The session was started with a short program and introduction of participants.

SESSION PROPER:

- I. Briefing/Orientation of the SLRIF-JICA – by Mr. S. BAN, Consultant, JICA.
 - Presentation of the objective, approach & target of Preparatory Survey.
 - Presentation of the country's current situation in terms of irrigated area, paddy yield and the stagnancy of rice production that attributes to rice shortage, increase in rice import and increase in country financial burden.

Mr. Ban, informed the group that the purpose of the session is to make project proposal for funding of JICA. At present they have prioritized 27 NIS from 6 Regions of which eleven comes from Region I for selection finally to be eligible NIS. The selection of NIS includes 209 NIS then trimmed down to 115 NIS, then 56 NIS down to 27 NIS based on different criteria. The 11 NIS of Region I are considered candidate sub projects which are evaluated in two aspects such as;

1. Physical Aspect – the irrigation system dam, canal structures etc. and the minor infrastructure like farm to market roads.
2. Institutional Aspect – this is the major component which involves the partners of NIA in irrigation related activities known as the Irrigators Association wherein their values and the capacity to manage the system is of paramount importance.

Mr. Ban and Mr. Cabezon reiterated that Rehab of Irrigation facilities through JICA involves Loan not Grant and entails repayment of principal amount plus interest by the Phil. Government by means of peoples taxes. Rehab is very costly and they enjoin IA'a to treat irrigation system as their personal belongings to be able to attain target lifespan of facilities rehabilitated.

II. FOCUS DISCUSSION

The focus discussion was facilitated by Mr. Cabezon involving the leaders of IA's.

The questions asked were;

1. What causes the destruction of Irrigation Facilities? and;
2. How can you help as water users to maintain the Irrigation Facilities?

Each of the IA – Leaders participant was given “metacards” for them to write down their answers. The collected “metacards” were pasted on the white board and classified into Physical and Institutional.

Under Question No. 1

-Physical

- *Floods
- *Tropical Storm
- * Design Failure
- *Lack of funds to maintain facilities

Under Question No. 2

-Physical

- *Provision of back hoe equipments
- *Construction of River Training Structure & related facilities
- *Intensify tree planting activities in watershed areas

-Institutional

- *Participation in construction and O & M
- *Community involvement in maintenance
- *Coordination with LGU;
- *O & M of canals to be undertaken by IA's
- *Spirit of cooperation among water users must be strengthened
- *Re-activate federation of IA's

COROLLARY QUESTIONS

1. How do you participate as IA's in the construction activities?

Answer: To be actively involved in planning & design and the provision of labor. IA's should be consulted first before any construction or rehab activities

Mr. Jimmy Valencia, Provincial Federated President representing Dingras RIS told the group that IA's were not informed of any construction activity. (Please be noted that approved POW of systems R/R works were discussed during the Federation of IA meeting under INIS where Mr. Valencia co-pressed last May 6, 2009).

2. What are the strategies to increase collection of ISF?

Physical

- Sufficient water
- Repair structure immediately when destroyed

Institutional

- No pay, no water policy
 - NIA to increase IA share to encourage them further to collect
 - Farmers to pay ISF and not relying on landlords
 - File cases to delinquent payors
 - Update area of farmers
 - Collection in kind
- Teodoro Bayudan of Papa RIS says his IA collects 100% of DCC/ISF as they implement “no pay, no water policy”
- Samuel Aboag of San Fabian RIS says he wants to enter into Type II (Collection) contract with NIA to increase their collection efficiency from the present 55%
- Jimmy Valencia of Dingras RIS commented that low collection in Dingras RIS is attributed to siltation of intake every typhoon that make the system operation suspended that lead to low crop yield
- Carmelo Tagapuen of Solsona RIS says his IA collects DCC/ISF every after harvest. The wet crop collection is for DCC remitted to NIA while the 2nd & 3rd crops are intended for the IA (70%) and the TSA sector (30%) to have maintenance fund for the IA
- Vicente Juan of Papa RIS says that his IA has an existing Coop. which is now 3 years in operation
- Melchor Daus of Tagudin RIS says that his IA has a passbook at NFA where they sell their produce which they get P1,800.00 additional incentive every 50 cavans of palay sold.
- Prudencio Alay-ay of Sta. Lucia RIS wishes that all IA’s should be given Flat Bed Driers by the Department of Agriculture & the possibility of farmers to get affordable prices of fertilizers

The IA also echoed receptiveness on IMT after rehab of canals

SESSION 2 WITH LGU’s

The same process as in session I. On the focus group discussion, Mr. Ban & Mr. Cabezón informed the group that they were invited for the session to know

agricultural support the LGU's can do in the implementation of the Rehab of Irrigation Facilities such as;

a) Minor Infra – Farm to market roads that link irrigation or system service roads

- Oscar Recta, Laoag City Agriculturist says that City Mayor Farinas supports very much agriculture development. He even said that the City gets much support from DBM as he has a kin there to serve as conduit of their request.

b) Extension Services

- Generosa Blas, Vintar Municipal Agriculturist says that they field technicians in every Barangay. Extension personnel are given P 500/month TEV's and they could use the office service vehicle alternately with co-technician in visiting their respective coverage

- Oscar Recta also said that the City has one technician per Barangay & go on field work 4 days a week

On the question how do LGU's participate in the implementation of the project; the following arrived as written in the distributed "metacards"

1. Monitoring & evaluation
2. Validation; planning & implementation
3. Involvement of shareholders in planning and implementation
4. Through info dissemination about irrigation via
 - farmers class
 - field days/ festival
 - radio on the air
5. Monitoring
 - to evaluate the effectiveness of the project
 - had the project addressed the need?
 - had the project served the purpose?
6. Technical/Financial support to the IA's in post implementation phase
7. Planning
 - to plan well to avoid wastage of fund

COROLLARY QUESTION

Can you re-align or re-focus funding so as to give agriculture a priority?

- Generosa Blas of Vintar said that P 1.2 to P1.5 million per year is given as aid to IA's from the RA 7171 fund. She further opined that without national fund, the amount is very small
- Also mentioned is the absence of operable backhoe of NIA where the Provincial Government of Ilocos Norte, Laoag City Government, Bacarra Municipal Government are lending their available backhoe for canal desiltation works & intake channelization
- Ruby Ann Ramos queried on the level of LGU counterpart in the project implementation but Mr. Cabezon said that at this time they are still on process of collecting cost and they can't yet give indicative cost or figure
- Randy Tolentino of the Provincial Planning & Development Office said that what is happening in the province is that they provide technical and financial assistance to a project and counterparted by the Municipal Government & the Barangay beneficiary provides labor
- Mr. Recta suggested that Mayors should also be invited as they have the final say on these aspects. Mr. Cabezon pointed however that they will do that but at this point in time; they are still on the process of data gathering. Besides this project is expected to be implemented in 2011 and the election is held in 2010 and maybe a new executive maybe elected
- The group also promised to have full time detail of their personnel during the project implementation

The session is ended at 5:10 PM with the re-assurance of Mr. Cabezon to consider of their thoughts, their biases and their willingness to provide resources. Engr. Doris Camaya thank the participants and the NIA group.

Prepared by:

LUISITO C. MARTIN
IDU Head

Focus Group Discussion: Region I, Ilocos Norte (May 25, 2009)

An explanation of the background of the proposed project was first presented to put the participants in the proper perspective. The facilitator steered the discussion by posing generic issues on the vicious cycle of rehabilitating irrigation facilities. Each participant was made to write his/her opinion on an improvised card and then pasted on the bulletin board. The observations yielded concerns on institutions and physical. Only the institutional issues were tackled and these were grouped according to IA and LGU concerns. The FGD took off from these concerns.

Participants in the FGD were selected IAs in the systems located in Ilocos Norte. These included the chairman, treasurer and two members. The LGUs were mostly the municipal level, also in Ilocos Norte, composed of the municipal agricultural officer, infrastructure specialist, and municipal planning officer. The Provincial agricultural officer and planning officer of Ilocos Norte also attended the FGD.

The complete list of attendance is attached as Annex 1.

Irrigators Associations (IAs)

1. In general, the IAs in Ilocos Norte are in advanced stage vis-a-vis other provinces. The IAs prefer to have a complete turn-over of the facility in order to have full control and responsibility over O&M of the system. If and when, the IMT is pushed through, the model appropriate for these IAs would be model 4. In this instance, the only responsibility of NIA is monitoring and evaluation of the IAs. There is a special arrangement between NIA and the IAs in INIP, where ISF collected is only remitted for the first cropping. Subsequent cropping seasons (second and third) are waived by NIA as this forms part of the O&M fund of the IAs. This arrangement is akin to the communal irrigation system.
2. The IAs demanded full participation in the implementation of rehabilitation. This starts from planning, design and construction. The IAs believe that this system ensures that the facility is built according to the requirements of their needs. This request stems from the previous experience where the IAs were never consulted, and yet the facility were turned-over to them.
3. The IAs in Ilocos Norte enforces a very strictly policy with reference to ISF collection. The policy of "no payment, no water" is being enforced to pressure the IA members to pay their ISF. In consequence, collection rate has been reported to be 100%.
4. Livelihood endeavour in the form of "assembly marketing was reported by an IA. The IAs collect the paddy production of its members and bring it to NFA. NFA in turn provides incentives in the amount of Php 1600/15-ton delivered of paddy. In general, however, livelihood activities are very limited.
5. NIAs participation is perceived to be limited. It is suggested that entire community involvement must be encouraged to ensure ownership and protection of the facility.

6. Federation among IAs is being suggested so that clout and teeth over responsibility on O&M works by each member IA is strictly observed.

Local Government Units (LGUs)

1. The LGUs urged NIA to closely coordinate the proposed activities of the project so that appropriate support from concerned LGUs can be made. Limited resources from LGUs can be resolved if the activities are made known in advance for budget programming and allocation.

2. Equipment for repairs and maintenance of damaged irrigation facility are readily available from some LGUs, and these equipment are normally lent by the LGUs in case the IAs make such a request. In case of severe calamities, however, the priority being accorded accordingly is repair of road and bridges. It was also conveyed that the LGUs are now better equipped with heavy equipment than NIA. For repairs, cost sharing is normally practiced between the IAs and the LGUs. Some LGUs even provide subsidy in the form of free fuel for the use of the equipment.

FOCUS DISCUSSION FOR THE PREPARATORY SURVEY ON JICA-SLRIF

Palazzo de Laoag Hotel, Laoag City

May 25, 2009

*Focus Group Discussion
Region 1*

NAME	OFFICE/POSITION	SIGNATURE
1 RANOB S. TOVENTINO	PPDO / STAT II ✓	
2 ERICSON M. ABUSTIN	PPDO / PEO III ✓	
3 RUBY ANN S. RAMOS	CPDO / PEO I ✓	
4 LIBERTY A. ROS	CPDO / PEO I ✓	
5 GEYCRESA G. DUBAS	Asst. Agricultural Vintner ✓	
6 OSCAR R. RECHA	City Agricultural ✓	
7 RENATO P. MILLAN	OIC - PHO Pangasinan	
8 DENNIS DE VERA	OIC - AMBUJAYAN DC	
9 ADRIANO F. ANIANO	OIC Ilocos Sur IMO	
10 JOHN W. CELESTE	RIM - KTA	
11 SAMUEL V. ABAOAO	LGU - PANGLAS ✓	
12 NIEVES M. de GUZMAN	Chief IDB Reg. I	
13 PRECIOUS FELIFE	NIA - INIS LAOG CITY	
14 MARK JAY MIGUEL	NIA - INIS Laoag City	
15 LUCYSCA T. ANANAN	NIA - INIS - ACCOUNTING	
16 TERESITA LETY G. TANDON	IDB - Reg. I / SIDO	
17 BERGID P. MARTINEZ	OIC - IMO	
18 DOMBISIO Y. INES	NIA - INIS / Sr Engr B	
19 Prospero G. Ravelo	NIA - INIS SWRF/IDO	
20 SUSIMO G. DOMINGO	NIA - RIO / OPTN. - Engr. A	
21		
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FOCUS DISCUSSION FOR THE PREPARATORY SURVEY ON JICA-SLRIF

Palazzo de Laoag Hotel, Laoag City

May 25, 2009

FED
Region 1

NAME	OFFICE/POSITION	SIGNATURE
1 HELSY S. REKASUDEZ	OIC - ETO DIV. REG. 1	[Signature]
2 NIEVES M. de GUZMAN	Chief IDS NIA REG I	[Signature]
3 NESTOR B. TABATA	PRES DIV 3 ^{SARIBED KED} MANAON	[Signature]
4 MAURO Y. MAXIMO	PRES DIV. IV NORTHWEST IIA	[Signature]
5 Trudencio G. Queja	TRFO North MALINDANGAN	[Signature]
6 ANGELO MILASIG	LAOAG BACORRA VINTAGE ASS.	[Signature]
7 Victorino Garcia Pro	Zanja de San Marcos ^{PRESIDENT}	[Signature]
8 BAYUDAN, TEODORO B.	Zanja Parabe (Marcos Div.) ^{PRESIDENT}	[Signature]
Leon Tabata	Zanja Sta. Lucia Tagayud ^{PRESIDENT}	[Signature]
10 Constantino ^{Baldonado}	AMRIS-7IA - President	[Signature]
11 SAMUEL ABAOAL	San Fabian ^{President}	[Signature]
12 REVATO P. MILLAN	OIC - PANG. IMU	[Signature]
13 DENNIS de Vera	OIC - AMPUS	[Signature]
14 Prospero G. Ravelo	SWRT/100	[Signature]
15 Arsenio C. Fernando	Engr. A - IALS	[Signature]
16 VICENTE A. Juan	RAGAS-SANTIAGO I.R.A. ^{VICE PRES}	[Signature]
17 Mariano Diaz	President ^{Sec.} Labugan S.I.U.	Mariano Diaz
18 Domingo Laming	Labugan S.I.U.	[Signature]
19 PRECIOUS TELIPS	NIA-LAODG	[Signature]
20 NEMESIO F. MAS	NIA-INDS & bry B	[Signature]
21 SUSIMO G. DOMINGO	NIA-Regl. Office - ^{Opn. Section} Engr. A	[Signature]
22 MARK JAY MIGUEL	NIA-INDS	[Signature]
23 SERGIO F. MARTINEZ	DIA-IND	[Signature]
24 LUCRECIA T. ANJAM	KCTG. PROCESSOR A	[Signature]
25 LUISITO E. MARTIN	NIA-INDS	[Signature]
26 HANRIAN V. GAERDO	NIA-INDS ENGR. A	[Signature]
27 Melchor R. Dang	Fed. Pres. Tagayud	[Signature]
28 ADRIANO F. AMANU	OIC ILOCOS SURIMO	[Signature]
29 Prospero Alayon	Pres. Sta. Lucia-Candover Fedn	[Signature]
30 John Celarte	RIM - OIA	[Signature]

FOCUS DISCUSSION FOR THE PREPARATORY SURVEY ON JICA-SLRIF

Palazzo de Laoag Hotel, Laoag City

May 25, 2009

NAME	OFFICE/POSITION	SIGNATURE
31 SARAH DABUICO	Treasurer ^{Sanj. Sto Nino Tabatabagan}	
32 JIMMY R VALENCIA	IBAGANI Fed. Pres.	
33 TERESITA LETY G. TANDOC	IDD, Reg I / SIDO	
34 RICARDO C. Africo	RD DRIVER	
35 DOMINADOR CALAN	Reg I DRIVER	
36 REYNALDO P. BAUTISTA	REG. I DRIVER	
37 ANTONIO V. IMPISAN JR	NIA INIS DRIVER	
38 PENARANDA BERUEL M	VIA CD	
39 ROLANPOT. DUSPO	NIA ILOCOS SUR DRIVER	
40 ITSUO KIHARA	JICA Team	
41 S. BON	JICA Consultant	
42 I. M. CARAYAN	NIA - C. O.	
43 DOMINADOR TRUJANO	GOURNA MIA PRES.	
44 G. CABERON	JICA CONSULTANT	
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Annex B-2

Records of Workshop and Focus Group Discussions In Region 3

Table B2-1 Summary of Local Issues, Problems, Request and Counter Schemes on FIAs/ IAs Commented in the Focus Group Discussion in Region 3

Item	Issues and Problems	Requests	Counter Schemes
1. Physical problems on NIS	<ul style="list-style-type: none"> a. Damaged irrigation facilities at the intake due to volcano ash fall. b. Silted canals due to heavy erosion and sedimentation. c. Damages of farm and canals due to encroachment (illegal disposal of waste materials) along the highway and urbanization. d. Constricted flow of water due to excessive waste and garbage. 	<ul style="list-style-type: none"> a. Desilt and lining of canals. 	
2. Design and supervision of construction			
3. Maintenance	<p>Poor maintenance condition due to disposal of domestic waste; and irrigation water supply restricted.</p>		<ul style="list-style-type: none"> a. IA takes action to prevent dumping of wastes including NIA and LGUs and other major stakeholders.
4. Operation	<ul style="list-style-type: none"> a. Non synchronized cropping schedule of NIA and DA due to different DA's cropping system. b. Non synchronized cropping calendar vis-a-vis actual planting due to untimely delivery of water. c. No synchronization with DA's cropping system. 	<ul style="list-style-type: none"> a. Involvement from the LGUs to enforce sanctions on violations (dumping of garbage, ISF collection). 	<ul style="list-style-type: none"> a. IAs takes an active role on the operation of the irrigation facility.
5. Participation of IA in the project implementation.	<ul style="list-style-type: none"> a. Lack of cooperation among farmer beneficiaries and IA members due to weak organizational policies. b. Poor response of IA due to inequitable division of monetary incentives among officers and members. 	<ul style="list-style-type: none"> a. Active involvement in construction 	<ul style="list-style-type: none"> a. Empowerment of the IAs in order to influence and exert their proper duties in design, construction and O&M.
6. Agricultural Support Service	<ul style="list-style-type: none"> a. High moisture content of paddy due to lack of drying and storage facilities. b. Shortage of production capital among farmers due to low savings. 	<ul style="list-style-type: none"> a. Provision of dryers. 	<ul style="list-style-type: none"> a. FIA takes activities on stronger representation by FIA/ IA members in the regional agriculture and fishery councils (RAFC) in order to get funding support for agriculture.
7. Institutional	<ul style="list-style-type: none"> a. Poor coordination with local government agencies, especially in agriculture extension services and control of waste disposal. b. Low ISF collection due to less irrigated area brought about by flooding (wet season) and low water supply (dry season). 	<ul style="list-style-type: none"> a. Increase of ISF share for collection from NIA for maintenance. 	<ul style="list-style-type: none"> a. FIA/IA initiates advocacy campaign on mitigation of dumping waste materials through the involvement of community, by using the local schools, teachers, and students as the media of information campaign.

Table B2-2

**Summary of LGU's Local Issues, Problems, Counter Schemes on Rehabilitation Works of NIS
Commented in the Focus Group Discussions in Region 3**

Item	Issues and Problems on Rehabilitation Works of NIS	Counter Schemes
1. Suitability of regional development program.		
2. Staff Resource for Counter Schemes		a. Provincial LGU initiates co-mentoring to municipal LGUs to increase their technical skills on technology advice.
3. Financial Aspect	a. Shortfall of budget to expand production loan and provision of certified seeds. b. Low mobility of municipal agricultural extension officers due to limited travel fund. c. No budget of LGUs to provide post harvest facilities, organic fertilizer and demo-farm of hybrid rice.	
4. Participation to the Project Implementation		
5. Support to Ordinary O & m	a. Solid waste management problems near and in the NIS area.	a. LGU provided the area (24 ha) for solid waste management.
6. Agricultural Support Service		
7. Institutional	a. Non-representation by IA officers or FIA in the Provincial development council to endorse irrigation needs and other social infrastructure due to lack of community influence.	a. LGUs invite farmer leaders to be part of the regular planning and budgeting of the concerned LGUs.

Region III

**Documentation of Focus Group Discussion (FGD)
Sector Loan for Rehabilitation of Irrigation Facilities (SLRIF)
Porac – Gumain RIS, NIA Region III**

Date: June 04, 2009, 9:30 AM to 4:00 PM

Venue: Wilma Retreat House, San Nicolas, Floridablanca, Pampanga

I. Short Opening Program facilitated by Ms. Eden Garcia IDS Chief of Pampanga PIMO

II. Participants = see attached sheet of attendance

Provincial LGU = 1 NIA = 8

Municipal LGU = 7 JICA = 2

IA Delegates = 10

III. Briefing and Orientation of SLRIF funded by JICA

- Ms. Rosalina dela Cruz, Institutional NIA Counterpart provided the short overview
- Mr. Shoichiro Ban, JICA consultant presented the objectives, coverage, selection procedure for project sites, preparatory survey, time frame and other relevant information

IV. Focus Group Discussion facilitated by Ms. Rosalina dela Cruz. The IA participants jointly with LGU representatives through 3 workshop groups discussed among themselves problems experienced in relation to operating irrigation systems in their respective area. Every single problem is written in colored metacards and later on categorized into Organizational, Rehabilitation Works, Operation and Maintenance and Support Services.

Output is presented hereunder:

A. Organizational

- lack of cooperation among farmer beneficiaries and IA members
- farmer's meeting and poor attendance always
- poor TSA group
- poor IA policy implementation

B. Rehab Works

- Sto. Cristo Dam for construction
- widening of irrigation Main Canal and proper disposal of waste on squatters area
- rehabilitate Main Canal and line canal
- BACANI DAM for rehabilitation
- line canal, silted canal 4.5 km. from San Pedro Palcarangan to San Roque Arbol
- Squatter encroachment along Mc Arthur Highway and Patangue area
- concreting lined canal – PALSAIA
- concreting main canal and lateral canal approximately 7 km
- Rehab Patangue Main Canal 700 meters
- Dam of Patangue Canal –for rehabilitation

C. Operation & Maintenance

- DA's Cropping System not synchronized with NIA's Cropping Schedule
- Illegal Squatting (Waste Management Disposal)
- Delayed Water Delivery
- Squatting (Encroachment)
- Heavy Siltation
- No Synchronization of Cropping Calendar with Systems CP
- Poor ISF Collection due to lack of H₂O Supply and Poor Irrigation Services

D. Support Services


- Farm to Market Road improvement along Main Canal
- Farm to Market Roads needed in PGRIS
- Lacking Post Harvest Facilities

- Lacking Farmer capitalization for Additional Input
- Lack of Presence of DA Technician
- Needing hand tractors, reaper, thresher (Post Harvest Facilities)
- Lacking Financial Assistance
- Needs Marketing Assistant and Financial Support
- Lacking Implementation of RA 9003 (Solid Waste Management)
- Lacking of Technical Assistant on the part of DA (From 3 PRC IA and Sumulong IA)

A separate session with LGU representatives was facilitated by Mr. Ban at 2:00 PM shortly after a brief film showing on Model Tertiary Facilities for On-Farm Development.

The session was formally over at 4:00 PM.

Prepared by:


EMMA S. CRUZ

IDS Chief, EOD NIA Region 3

Proposed Program on
Counterparting scheme

1) Production loan (P 25,000/ha)
RICE & CORN

2) Post Harvest Facilities (50-50 scheme)
like a) Multi Crop threshers
b) Hand tractors - 125 -
c) Reaper - 135
d) waterpump - 65 - 80 hp. *
d) tractors ? *
e) others

3) Production of Organic fertilizers
Demonstration Farm (Hybrid rice)

Solid Waste Management
LCoU provide Land 24 has.

Concreting of Irrigation line canal *
inside IA

Trainings IA'S / Farmer leaders / ?
Fisher folk







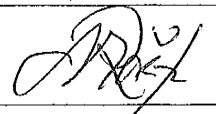


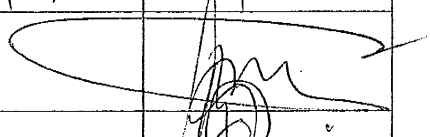
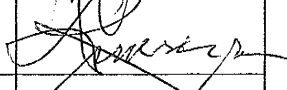
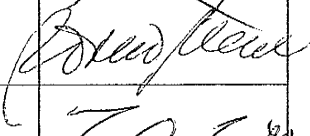
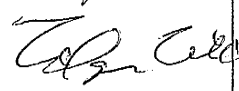
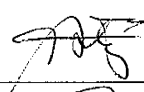

Rice Production (50-50 scheme on certified seeds)

Region III

JICA Preparatory Survey for Sector Loan on Rehabilitation of Irrigation Facilities

List of Attendants for Workshop / Meeting

Title: Orientation and Focused Group Discussion with IAs + LGUs in Davao-Gunain PLS Re-Sector Loan on Rehab of Irrig. Facilities
 Date: June 4, 2017 Time: 9:00 -
 Place: Wilma Resort, Plowdoblancia, Pangasinan

	Name	Organization/Office	Signature
1	S. BAN	JICA Consultant	
2	J. BATASTA	3 PRC	
3	ENGR. MANUEL N. MENDOZA JR.	PPDO - PAMPANCA	
4	LEONARDO MANALANSAN	3 PRC	
5	R. DOLFO CEPAN	3 PRC	
6	Edilberto Makit	3 PRC	
7	Ruben M. Martin	Patangas ABC	
8	Fery Garcia	Patangas BSMI	
9	Carlos Suga	Patangas BSMI	
10	DANILO C. KAVINDO	MPDC / LUBAO	
11	Siwardo B. Rivera	IA Concepcion North	
12	ROMEO PINGAL	PALGIA - Pres.	
13	Edgert ZITA	FLIA Cherman	
14	CHRISTOPHER C. CONTRA	DA - Sumilang IA	
15	Maicon J. Delacruz	DA	

List of Attendants for Workshop / Meeting

Title: Orientation and Focused Group Discussion with IAs + LGUs in Form -
Guzman RIs Re - Sector Loan on Rehabilitation of Irrig. Facilities
 Date: June 4, 2019 Time: 9:00 AM
 Place: Wilma Resort, Floridablanca, Pampanga

	Name	Organization/Office	Signature
16.	1 GENE T. MACABULOS	DA - LUZAO	
17	2 MARIA Q DAVID	DA - MA-URBDO	
18	3 EMMA S. CRUZ	NIA - R3	
19	4 Thelma A. Tinley	NIA - R3	
20.	5 Eden N. Garcia	NIA - PRRUS	
21.	6 Roberto J. Peta Cruz	NIA - R3	
22.	7 ANGELO S. MENDOZA	PARIS (Pamp. P1000)	
23	8 FETOR R. CUA	NIA - R3	
.	9 George M. Luan	NIA - PPRUO	
25.	10 ROSALINA DENZAMUZ	NIA P.O.	
26.	11 RAMON CARLOS	PALSIA	
27.	12 Rodol Sabino	PALSIA	
28.	13 Ruben Lavareta	PALSIA	
29.	14 Jovier P. Sagmin	PARIS	
30.	15 Paul Sabins	Patangue IA	

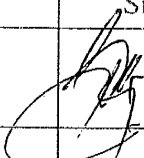

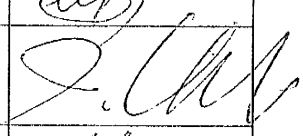
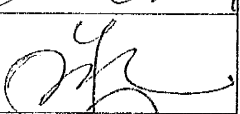
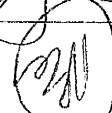
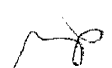
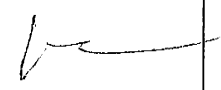
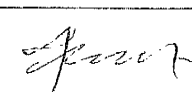
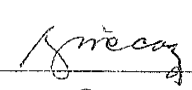
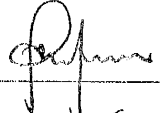

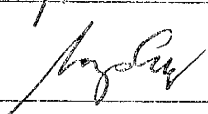
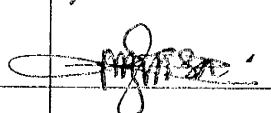

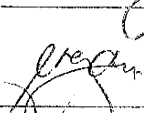
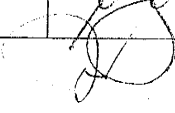
List of Attendants for Workshop / Meeting

Title: Orientation and Focused Group Discussion with IAs and LGUs in Porac - Guzman RWS Re-Sector Loan on Rehab. Irrig. Facilities
 Date: June 4, 2009 Time: 9:00 AM
 Place: Wilma Resort, Floridablanca, Pangasinan

	Name	Organization/Office	Signature
31.	1 Lito Geromino	Patangna IA	LG
32	2 FRANCISCO D. Dajao	MED - Luban	[Signature]
33.	3 ARTHUR ABUSTIN	MED - LUBAN	
	4		
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List of Attendants for Workshop / Meeting

Title: FORAC - GUMAINO NIA - JICA SLRIF MEETING
 Date: 9 JUNE 2009 Time: _____
 Place: FLORIDABUNCA, PAMBANCA

	Name	Organization/Office	Signature
1	ROEL C. BRIONES	JICA SLRIF	
2	Rie Kitao	JICA TEAM	
3	Itsuo Kihara	JICA SLRIF	
4	MATSUMOTO, Y.	JICA TEAM	
5	YOTSUMOTO, Y.	"	
6	E. M. PINTOR	JICA TEAM	
7	V. E. CABEZON	JICA SLRIF	
8	FERNANDO ANJULO	JICA - SLRIF	
9	J. M. CAMAYA	NIA - C.O. SLRIF COUNTERPART	
10	GEORGE M. NOVAS	NIA - PPIMO	
11	Raynaldo B. Villanueva	NIA - C.O.	
12	Rosalina P. Salas	NIA - C.O.	
13	LARRY M. MASA	NIA - PPIMO	
14	Thelma A. Lintz	NIA - Reg. 3	
15	EDEN N. Garcia	NIA - PERIS	
16	DEFENSO E. CUSTODIO JR	NIA - C.O.	

**DOCUMENTATION OF REGIONAL ORIENTATION ON SECTOR LOAN ON
REHABILITATION OF IRRIGATION FACILITIES**

Date: June 03, 2009, 9:30 AM – 4:00 PM

Venue: Regional Conference Room, San Rafael, Bulacan

**1. Short Opening Program facilitated by Mrs. Emma S. Cruz, IDS Chief,
Engineering and Operations Division of NIA-Region 3**

11. Participants - Please see attached attendance sheet

Regional Office - 9

Field Office - 6

JICA – SLRIF - 6

III. Briefing and Orientation of SLRIF

- **Overview, objectives, coverage, project selection, time frame, formats for
for data preparation were discussed thoroughly by Mr. Schoichiro Ban**
- **The technical component and data requirement was discussed by Mr.
Itsu Kihara. Also mentioned in the discussion is the data requirement,
feasibility study and project proposal for Bustos Dam Repair and
Rehab which will be site validated by the team at the later part of
their schedule.**
- **Engr. Roel Briones presented and discussed the study for the
maintenance, rehabilitation and improvement planning methodology
for NIS. He also explained the pre-feasibility requirement for
proposed NIS sub-projects.**

**Mr. Fernando Antolin gave the briefing on agro-economic survey and
the required format to be accomplished.**

IV. Brief Profile of Porac-Gumain RIS

**In view of the scheduled field visits of the JICA- SLRIF team to
Porac-Gumain RIS on June 4 and 9, Engr. Angelito S. Miguel,
Provincial Irrigation Manager of Pampanga briefed the group on
Irrigation Networks, canal system and operation of PGRIS. He
mentioned also areas and structures needing immediate repair to
improve system's performance.**

ISSUES AND CONCERNS

Rim: Pursue the construction of supplemental source-the proposed Upper Gumain Project

E.S. Cruz- Why use number of system as based data for IMT Program and not IA based?

RIM : Also, for project finalization and endorsement the repair of Angat Maasim RIS affecting a significant number of farmer beneficiaries.

REACTIONS/SUGGESTIONS

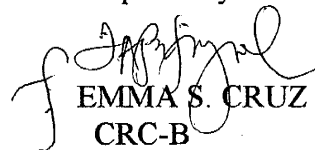
Mr. Ban – the program SLRIF is rehabilitation and not construction of new project, however, the project will be recommended if really necessary.. Prepare and submit actual program for IMT.

Mr. Kihara- Prepare proj. description, EIR, strong justification for the proposed project, other required data needed.

V. Adjournment

The conference ended at 4:00 pm

Prepared by:


EMMA S. CRUZ
CRC-B

Noted:


MARCELINO S. SANTOS
Division Manager

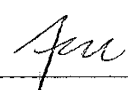

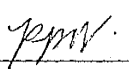
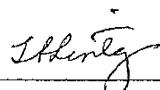

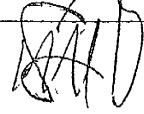
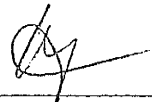

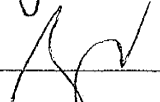
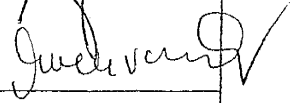
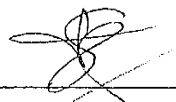
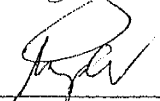
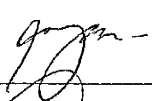
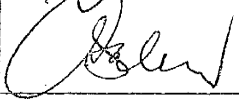
JICA Preparatory Survey for Sector Loan on Rehabilitation of Irrigation Facilities

List of Attendants for Workshop / Meeting

Title: NIA - Region III

Date: 06-03-09 Time: 9:20

Place: NIA regional office, Baliuag Bulacan

	Name	Position Organization/Office	Signature
1	FERNANDO ANDOLIO	JICA-SLRIF	
2	ITSUO KIHARA	JICA-SLRIF	
	Ragnaldo B. Villanera	NIA C.O.	
	Thelma A. Lintag	NIA-Reg.3-IDS / Area Permit for Pump.	
	Emma S. Cruz	R3-IDS	
	Roberto V. de la Cruz	R3-OTM	
	Marcelino S. Santos	EOD - Reg 3	
	AMBROSIO I. CARANAN	R3	
	Roberto J. dela Cruz	NIA-Reg 3	
	Rochelle R. Cervantes	NIA Reg 3	
	ANGELITO S. BALONZON	PCRS (PUMP-PIWD)	
	ROSALINDA MORALES	NIA C.O.	
	EDEN N. GARCIA	NIA-PPIMD	
	JUANITO C. VAUGHAN	SIRD / NIA Reg. 3	
	ROL C. RIVERA	JICA SURVEY TEAM	

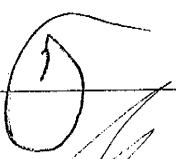
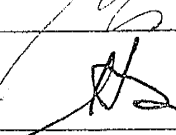
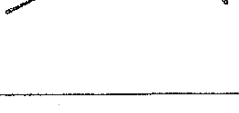
JICA Preparatory Survey for Sector Loan on Rehabilitation of Irrigation Facilities

List of Attendants for Workshop / Meeting

Title: _____

Date: _____ Time : _____

Place: _____

	Name	Organization/Office	Signature
6.	1 Agnes M. Aure	NIA - PBMID	A. Aure
7.	2 NG Fernandez	NIA - Ictam	
	3 MLC Collado	NIA R3	
9.	4 J. Bon	JICA Consultant	
0.	5 Protacio T. Talarca, Jr.	NIA - Pamp. Dist.	
1.	6 Javier V. Sagmit	NIA - Pamp. Dist.	
	7		
	8		
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Annex B-3

Records of Workshop and Focus Group Discussions In Region 4

Table B3-1 Summary of Local Issues, Problems, Request and Counter Schemes on FIAs/ IAs Commented in the Focus Group Discussion in Region 4

Item	Issues and Problems	Requests	Counter Schemes
1. Physical problems on NIS	<ul style="list-style-type: none"> a. Damaged turnouts due to soil erosion. b. Damaged canals due to siltation brought about by excessive mining and slash and burn cultivation . 	<ul style="list-style-type: none"> a. Desilt and lining of canals. b. Rehabilitation of damaged turnouts. 	
2. Design and supervision of construction			
3. Maintenance			
4. Operation	<ul style="list-style-type: none"> a. IA can not follow cropping calendar and water delivery schedule due to no well examination of the pattern and shortage of water. 	<ul style="list-style-type: none"> a. Stronger participation of the federation of IA. 	
5. Participation of IA in the project implementation.			
6. Agricultural Support Service	<ul style="list-style-type: none"> a. Low farmgate prices for paddy with high moisture content due to lack of dryers and storage facilities. b. Non-availability of good quality paddy seeds due to shortage of seed producers. c. High cost of farm inputs due to high transport cost brought by inaccessible roads. d. Poor state of farm to market roads due to lack of periodic maintenance. 	<ul style="list-style-type: none"> a. Provision of dryers . b. Establishment of demo farms for production of good quality paddy seeds c. Repair of farm to market roads. 	
7. Institutional	<ul style="list-style-type: none"> a. High ISF back account due to non-affordable amount of remaining ISF. 	<ul style="list-style-type: none"> a. IA intends designation of baranggay captain as member of a committee within the federation to implement O&M improvement measures. 	

Table B3-2

**Summary of LGU's Local Issues, Problems, Counter Schemes on Rehabilitation Works of NIS
Commented in the Focus Group Discussions in Region 4**

Item	Issues and Problems on Rehabilitation Works of NIS	Counter Schemes
1. Suitability of regional development program.	<ul style="list-style-type: none"> a. Low Priority of Malatgao RIS vis-a-vis other social infrastructure (school buildings, hospital). 	
2. Staff Resource for Counter Schemes	<ul style="list-style-type: none"> a. Lack of manpower and inadequate skills of LGUs to support rehabilitation. 	
3. Financial Aspect	<ul style="list-style-type: none"> a. Budget for agricultural extension and additional seed production center is dependent on availability of national fund. 	
4. Participation to the Project Implementation	<ul style="list-style-type: none"> a. Low support coming from baranggay LGUs due to non-invitation of baranggay chair person by NIA in planning and decision-making at the local level. 	
5. Support to Ordinary O & m		<ul style="list-style-type: none"> a. LGU assists the federation of IA to improve O&M capacity through attendance in systems management training using LGU fund.
6. Agricultural Support Service		<ul style="list-style-type: none"> a. LGUs identify farmer-cooperators as seed producers.
7. Institutional		<ul style="list-style-type: none"> a. Strong representation by Provincial Development Council members to support the rehabilitation of Malatgao RIS.

**WORKSHOP ON THE COLLECTION AND VALIDATION OF DATA REQUIREMENTS FOR SUB-PROJECTS IN
REGION 4
THE JICA PREPARATORY SURVEY FOR SECTOR LOAN ON REHABILITATION OF IRRIGATION FACILITIES**

Subject: **Workshop on the Collection and Validation of Data Requirements, Region 4**

Date and Time: May 22, 2009, 8:30 – 16:00

Venue: NIA Region 4 Office, Pila Laguna

Attendance: See attachment 1

1. The workshop was held on May 22, 2009 at the Training Center of NIA Region 4 office. In attendance were staff and officers of Region 4, namely the respective heads of the engineering and operations and finance and administrative; IDOs; and designated heads of IMOs of Laguna, Quezon and Palawan. The complete attendance is attached as Annex 1.
2. The participants were apprised of the proposed JICA-SLIRF project, its nature and configuration especially in the selection of the 27 sub-projects. The JICA survey team explained the requirements of the physical and institutional components expected from the Region in order to complete the data needed in the drafting of the project proposal.
3. The deadline set by the JICA survey team for Region 4 to submit the data requirements for the 3 candidate sub-projects (Sta. Cruz, Dumacaa and Malatgao) is on June 4, on the time that the survey team will conduct its field visit to the two systems, Dumacaa and Sta. Cruz NISs. It was further suggested that completion of the data requirements for the other systems was on a "best effort" basis. NIA Region 4 concurred with the deadline schedule.
4. The focus group discussion (FGD) will be held in Narra, Palawan on June 1. The IMO of Palawan was advised to make the invitation of 12 IA representatives and about 8 staffs (agricultural extension, infrastructure and planning officer) of the municipal LGUs of Narra and Aborlan, including the Provincial planning officer and provincial agriculturist of Palawan Province. Further, the arrangement for the venue and other logistics preparations were coursed to IMO of Palawan. The IMO of Palawan agreed to make all of these arrangements.
5. A request from the Region to include the IDO head to participate in the FGD was concurred in by the JICA Survey Team.

NIA, Pila Laguna
May 22, 2009

Mr. SHUICHI SATO
Team Leader
JICA Preparatory Survey for Sector Loan on
Rehabilitation of Irrigation Facilities

Witnessed by

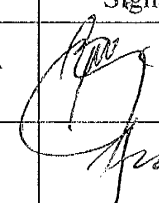
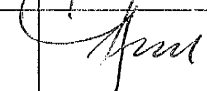
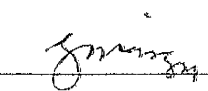
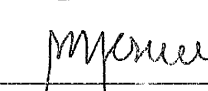

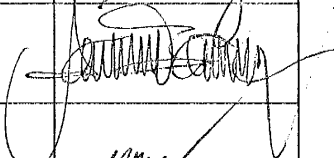
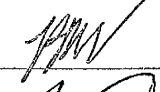
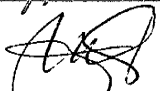
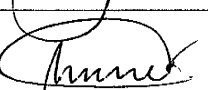

Mr. TERUHISA TAJIRI
JICA Expert to NIA
Japan International Cooperation Agency (JICA)
Philippines Office

List of Attendants for Workshop / Meeting

Title: MEETING WITH NIA - LUCENA - IMO

Date: _____ Time: _____

Place: LUCENA CITY

	Name	Organization/Office	Signature
1	ROEL C. BRIONES	JICA-SLRIF SURVEY TEAM	
2	FERNANDO E. ANTONIO	JICA-SLRIF SURVEY TEAM	
3	ISIDORA M. CAMATA 09176453792	NIA - PPD C.O. QUEZON CITY	
4	BIENVENIDO S. TESNADO	NIA-IMO QUEZON	
5	AMELIA N. ALBERO	-do- ena	
6	SANGLEY O. LUALHATI	NIA - IMO, QUEZON	
7	Reynaldo B. Manera	NIA - C.O.	
8	Eugenio Copon	NIA - QPIMO ^{QAPROKAPAL} LUCENA CITY	
9	REMEDIOS R. ORETA	NIA - QPIMO ^{WRFT} Quezon	
10	Carlito A. Aranilla	-do-	
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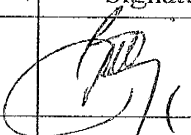

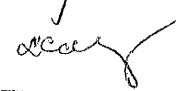
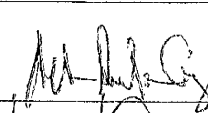


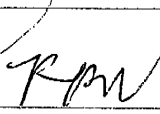
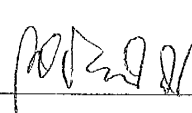
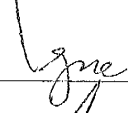
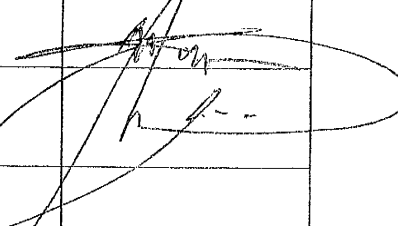
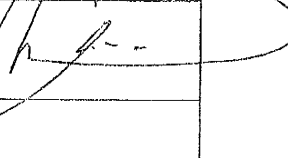
JICA Preparatory Survey for Sector Loan on Rehabilitation of Irrigation Facilities

List of Attendants for Workshop / Meeting

Title: MEETING NIA - SLRIF

Date: JUNE 4, 2009 Time: 10AM - 12NN

Place: PLA MAGNIA

	Name	Organization/Office / Position	Signature
1	ROEL C. BACHOS	JICA - SLRIF	
2	FERNANDO E. ANTON	JICA - SLRIF	
3	WILLIAM C. DELA CRUZ	NIA - LISO	
4	MARIETTA M. DEVA CRUZ	NIA - LISO / IDO - A	
5	ROMEO R. ANONUETO	NIA 4 / OIC Engrg + Operation Div.	
6	JAYSON P. CAPISTRANO	NIA - LISO	
7	Reynaldo B. Villanueva	NIA - C.O. / Prin. Engrg	
8	FRANCO O. VIDARIZ	NIA - LISO	
9	ISIDORA M. CAMATA	NIA - C.O. / Sr. Hydrologist	
10	BERONIMO S. JOYA	NIA - LISO	
11	MARVIN B. PADERES	NIA - LISO	
12			
13			
14			
15			

WORKSHOP FOR SLRIF MALATGAO RIS

June 1, 2009

9:30 am Arrival at Malatgao/Batang-Batang RIS, Naria, Palawan

Participants: 12 Farmers for 3 IAS
6 MBBRIS O&M Staff
1 RIO – IDO staff
3 CO-IDD/PDD
3 JICA

9:45 am General Orientation of Malatgao RIS

- System Profile Presentation
- Issues arising

- 1) Higher program – area/irrigated area than service area
- 2) Inaccurate area due to absence of survey equipment

- Potentials

- 1) Increase of service area in Maesia in South MC – 800 has (area to be restored) and Paradahan in North MC – 250 has (area to be restored) downstream of North MC – sandbag IA which has 80 has.; midstream of Centroma IA in North MC (Lat AN)

- Justifications

- 1) Maesia – brush is dysfunctional. The IA has no capacity to rehabilitate
- 2) Paradahan – the IA can maximize recycled water from Malatgao Dam
- 3) Sandbag and mainstream of Centroma – maximum utilization of recycled water from Malatgao Dam

11:00 am Focus Workshop Discussion

The orientation on the focus of discussion was done citing its objectives and methodologies.

A. Workshop Output – the problems/issues of Farmers are as follows:

Problems

- 1) Bakit po kaming mga farmers lang ang bumabayad sa utang
- 2) Problema sa panahon – climate change
- 3) Problem on collection
- 4) Hindi po nasusunod ang planting calendar lalo pag walang ulan. How come na tawaging irrigated area tayo

- 5) Pagpapabaya ng mga hayop
- 6) Walang cooperation ng barangay lalo na ang kapitan
- 7) Mataas na interest ng mga negosyante
- 8) High cost of farm inputs (3x)
- 9) Seeds are not available
- 10) Illegal kaingin
- 11) High value of farm inputs
- 12) Pagtaas lahat – abono, patatrabaho, patubig
- 13) High cost of farm inputs – 2 x
- 14) Seeds
- 15) Low cost of palay
- 16) Mining problem
- 17) Sobrang mahal ng bayad patubig
- 18) Canals needs concrete lining (2)
- 19) Needs rehab of TO
- 20) High back accounts
- 21) Maliit at hindi pantay na _____
- 22) Inadequate water delivery
- 23) Siltation
- 24) Repair of farm to market roads
- 25) Make reservoir
- 26) Find ways para maayos at mapaganda ang dam – heavily silted
- 27) Construction and diversion dam at Paradahan area
- 28) Isang beses lang makatanim sa 1 taon

B. Exptectations for LGU to address the problems presented

- 1) Support in the Implementation of NIA – Policy
- 2) Proposal for Barangay Ordinance
- 3) Resolution
- 4) Barangay official has no legal action against illegal kaingin
- 5) Additional farm to market road
- 6) Nais po naming mangyari kung maaari may representative ang LGU at NIA para umattend ng session ng barangay upang kung ano man ang maging usapang may kinalaman sa aming farm ay maiayos kasama ang aming IA.

C. Expectations on roles during project implementation

- 1) Design-cooperation in all implementation/design/construction
- 2) Implementation/construction
- 3) _____ (bayanihan)

2:10 pm

LGUs for Province of Palawan, municipalities of Naria

Integrated Aborlan general objective of this day's activity purpose

POWERPOINT PRESENTATION – Mr. Ban

- Overview of SLRIF
- Objective/Target of the survey
- Background on rice production
 - Demand Balance
 - Rice Production Increase
- Selection Procedure
- Finalization
- List of NIA in Group A

Rationale of this Activity – by Lina

- Why TO to IAs
- NIA – IA contracting
- Preparatory activities undergone/in process of NIA to IAs
- The need of NIS physical rehabilitation
- Readiness of the IAs to undergo model contract
- The need for LGU involvement – direct involvement
- Activity undergone

LGUs concerns

- 1) Rehabilitation of canals/canal livings (upgrading of canals)
- 2) Insufficient water supply – check as water shed (involvement of DENR)
- 3) Recycling of water
- 4) Attitude of farmers
- 5) Tapping other source such as Estrella Falls
- 6) Expansion of area exceeded the patil area
- 7) Physical aspect of Malatgao has been bugging _____
- 8) Late planting of farmers at the downstream
- 9) Lack of PHF
- 10) Commitment of LGU in FTMR – sourcing fund source for other possible funding institution

INFO – That Malatgao is included among the critical watershed area

Gomelina – causes water depleting in the watershed

Bangkal – to replace _____ as it is water producing

Involvement of other government/private sector to support environment rehab program

Mining- causes easy dilapidation of dam (should be _____ for service area)

Involvement of NGOs / PO in

?ID of

Tapping/reusing/recycling/water for rivers/creeks (as in the proposal of farmers)

Priority _____

For Provincial PDC – proposal are as follows:

Sagip-kalikasan

Environmental program in rehab of _____ forest, FTMR, etc.

_____ Eco-Development is considered?

PDIP – Provincial development for road improvement is included
(Prov'l Development Integrating Plan), PHF (under agri) plan
Specific to Malatgao?

_____ the coop as part of capability building

- Possible inclusion of the IA fed in the long-range plan at the provincial level. (NIA to provide info/data to the province)

Participation of LGU (mobilization, equipment, etc)

- Aborlan to cooperate as well as Naria (to inform the Mayor)
- Province has no agenda for IA Fed

Suggestions

Look for possible sources of

Inclusion of MBBRIS in info to the prov'l level of Palawan, in addition to the CIS info.

Justification for MAESIA (Estrella area) 800 has.

During the preparatory activity for PMSIP in late 70's, these group of farmers from Estrella area were not interested in the inclusion in the project due to the following:

- 1) Farmers did not like paying ISF
- 2) They did not like to be under the authority of any government authority
- 3) Their system is functional and O&M activities is being undertaken by farmers themselves

When the system bugged them for years back, farmers budget could not afford to spend for the rehabilitation works. Instead, they consulted NIA and asked for its assistance for them to be able to operate the system.

Focus Group Discussion: Region 4, Palawan (June 1, 2009)

An explanation of the background of the proposed project was first presented to put the participants in the proper perspective. The facilitator steered the discussion by posing generic issues on the vicious cycle of rehabilitating irrigation facilities

Participants in the FGD were selected IAs in the system located in Narra, Palawan. These included the chairman, treasurer and two members. The Narra LGU attendees were composed of the municipal agricultural officer, infrastructure specialist, and municipal planning officer. The complete list of attendance is attached as Annex 1.

Irrigators Associations (IAs)

1. Three (3) major concerns were raised by the IA participants: (a) O&M; (b) conditions of Malatgao NIS; and (c) farm production. Specific issues for each concern are itemized below.

O &M	Malatgao NIS	Farm Production
Low collection of ISF	Shortage of water during dry season	High cost of farm inputs
Non-adoption of cropping calendar during shortage of water	Reservoir insufficient	High cost of farm credit
Non-cooperation on O&M works, particularly from baranggay LGU	Silted dam and canal	Low price of paddy
Wandering animals along main canals	Damaged turnouts	Rampant mining causing damage to farm lands
High cost of ISF	Diversion dam	Lack of good paddy seeds
Low cropping intensity due to shortage of water	Poor farm to market roads linking the system to market areas	Rampant slash and burn cultivation along the upstream

2. The IAs expressed their willingness to actively participate in the proposed project. As suggested, they want to be involved as early as in the design to construction of the infrastructure-works of the system. It was also stressed that priority for labor should come from members of the IAs.

Local Government Units (LGUs)

1. Watershed for Malatgao was reported to be critical. The LGU expressed the need to implement a program to improve the tree cover of the watershed as a parallel activity to the rehabilitation of Malatgao NIS.

2. On the need to support farm to market roads linking the Malatgao NIS to market centers, the LGU expressed its readiness to source the required funding.

3. The possibility to raise additional funding for the rehabilitation of Malatgao NIS was suggested for incorporation in the programming of the Provincial budget.

4. There was a similar suggestion to support the federation of the IA by elevating it to the provincial level.


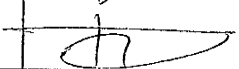
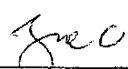
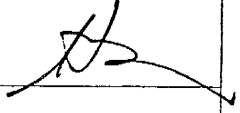
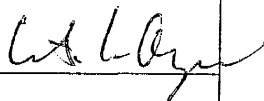
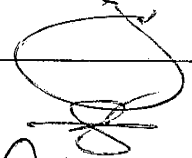
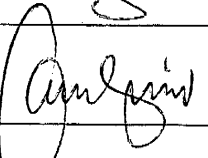
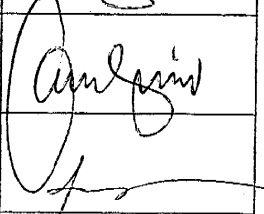
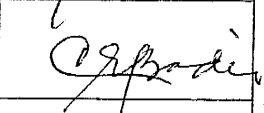
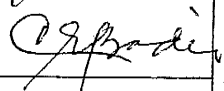


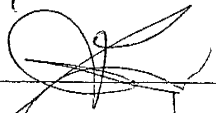
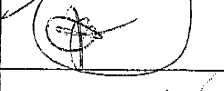

List of Attendants for Workshop / Meeting

Title: FOCUS GROUP DISCUSSION - JICA - PREPARATORY SURVEY FOR SECTOR LOAN ON REHABILITATION OF IRRIGATION FACILITIES
 Date: JUNE 1, 2009 Time: _____
 Place: NIA - OFFICE, NARRA, PALAWAN

	Name	Organization/Office	Signature
1	ROBERTO L. SIATREZ	SANBAG IA (KABANGKALAN)	
2	Rogelio V. Fernandez	IA SANBAGS	
3	MARID T. CASANULLO	SAMAGPAMANA I.A	
4	ANTONIO DEOCADRES	SAMAGPAMANA DUMANGUENA I.A	
5	NIMIROD G. TEJADA	NIA - MBBRIS (WRFT)	
6	LUDINO L. CUENCA	PARADAHAN - IA	
7	Irlanda R. Hernandez	Samagpamana I.A	
8	ERIC P. TOMESA	SAMAGPAMANA I.A.	
9	RODRIGO C. ^{BASA} BASA	NIA - MBBRIS	
10	ARLYN P. EM	PARADAHAN IA	
11	BALENA J. DOCELEN	PARADAHAN IA	
12	MICHELLE HELEN I. HERNANDEZ	PARADAHAN I.A	
13	Fredoturo D. Pando	Sanbag IA	
14	Renie S. Pasades	Sanbag tres	
15	Menchu Mervreccion	NIA - Region 4 - IOO	

List of Attendants for Workshop / Meeting

Title: FOCUS GROUP DISCUSSION - SECTOR LOAN ON REHABILITATION OF IRRIGATION FACILITIES FOR JICA - PREPARATORY SURVEY
 Date: JUNE 21, 2009 Time:
 Place: NIA OFFICE, NARRA, PALAWAN

	Name	Organization/Office	Signature
1	MARVIN PENDING	MA-MMBRUS	
2	MON BISSIM	Jo -	
3	ISIDORA M. CRUZ	NIK - CO. O.	
4	S. BAW	JICA Consultant	
5	CRISTITO L. OMAPAS	PROV. PLANNING OFFICE	
6	RONALDO D. FELIZAR	LCO - NARRA (mpoc)	
7	Edgardo S. Parco	Engineering office (LGU - Narra, Pal)	
8	WENCESLAO F. KANACO	SBO - MUNICIPAL CONCILIO COMMITTEE ON AGR.	
9	Juan F. Pinyra	MA - LGU, NARRA, PALAWAN	
10	Celsa B. Adier	Mayon LGU Aborlan Palawan	
11	RUBEN V. LADICA	LGU, ABORLAN, PALAWAN	
12	FRWIN I. YADAO	LGU - ABORLAN, PALAWAN	
13	SILVANO D. CORTAJO	LGU - ABORLAN, PALAWAN	
14	BERNARDO D. BAYOCAS	NIA - MMBRUS / SAUK PUS	
15	Reginaldo B. Villanueva	NIA C. D.	

Annex B-4

Records of Workshop and Focus Group Discussions In Region 6

Table B4-1 Summary of Local Issues, Problems, Request and Counter Schemes on FIAs/ IAs Commented in the Focus Group Discussion in Region 6

Item	Issues and Problems	Requests	Counter Schemes
1. Physical problems on NIS	<ul style="list-style-type: none"> a. Damaged turnouts due to rampant stealing of water. 	<ul style="list-style-type: none"> a. Provision of backhoe to excavate huge sediments in canal. 	
	<ul style="list-style-type: none"> b. Silted and damaged canals due to heavy erosion at upstream areas and wallowing of carabaos. c. Dumping of garbage and waste along main canals. 	<ul style="list-style-type: none"> b. Desiltation and lining of canals. 	
2. Design and supervision of construction	<ul style="list-style-type: none"> a. Deterioration of facilities due to poor quality control of construction materials. 		
3. Maintenance	<ul style="list-style-type: none"> a. Poor maintenance of facilities due to lack of monetary resources to pay for compensation of laborers. 		
4. Operation	<ul style="list-style-type: none"> a. Non-compliance by IA members to strictly follow the cropping calendar due to shortage of water. 		
5. Participation of IA in the project implementation.	<ul style="list-style-type: none"> a. Lack of concrete information about the project, especially on how the IA can participate. 	<ul style="list-style-type: none"> a. Representation of IA in a NIA committee to monitor construction activity. 	
6. Agricultural Support Service	<ul style="list-style-type: none"> a. Shortage of working capital and inaccessible sources of financing. 	<ul style="list-style-type: none"> a. Continue subsidy by LGU for hybrid seeds and fertilizers. 	
7. Institutional	<ul style="list-style-type: none"> a. Failure to prosecute erring contractors due to absence of legally binding agreement between IA and contractor. b. Refusal of IA members to pay ISF due to poor functioning of irrigation facilities. 	<ul style="list-style-type: none"> a. A legally binding agreement between IA and contractor as the basis for issuing notice to proceed, and to prosecute violations committed by both parties. b. Regular training and education to IA members to enhance cooperation among members on proper responsibilities. c. Increase ISF share to augment resources for maintenance. 	<ul style="list-style-type: none"> a. IA takes actions on active involvement of the entire community through advocacy to mitigate problems on dumping, siltation, etc. b. Re-organize IA based on lateral to foster closer coordination among members on O & M . c. IA takes campaign to enforce policy and sanctions on delinquent and non-member. "no ISF payment, no water" and "non-member", "least priority for water".

Table B4-2

**Summary of LGU's Local Issues, Problems, Counter Schemes on Rehabilitation Works of NIS
Commented in the Focus Group Discussions in Region 6**

Item	Issues and Problems on Rehabilitation Works of NIS	Counter Schemes
1. Suitability of regional development program.	Inadequate information about importance of the project vis-a-vis roads, bridges, and school buildings.	
2. Staff Resource for Counter Schemes	<p>a. Capacity of agricultural extension personnel to provide technology support is inadequate among the municipal LGUs.</p> <p>a. Weak capacity of LGU technical staff to network with funding agencies.</p> <p>b.</p>	<p>Provincial LGU intends to enhance co-mentoring of municipal and baranggay LGUs to improve their skills in project preparation and sourcing of development fund.</p> <p>a.</p>
3. Financial Aspect	<p>a. Budget for agricultural support is dependent on the development orientation of LGU executives.</p>	
4. Participation to the Project Implementation	<p>a. Non-invitation by NIA of LGU technical staff in the rehabilitation and/or construction especially for NIA-funded projects.</p>	<p>Executing agency defines clearly the roles and responsibilities of the LGUs by including the latter as member of project steering committee.</p> <p>a.</p>
5. Support to Ordinary O & m		
6. Agricultural Support Service		<p>LGU provides the initial seeds for mass production .</p>
7. Institutional		<p>a. LGU expands information campaign through local media to create awareness among LGU planning officers to give support to rehabilitation of NIS.</p> <p>a.</p>

**WORKSHOP ON THE COLLECTION AND VALIDATION OF DATA REQUIREMENTS FOR SUB-PROJECTS IN
REGION 6
THE JICA PREPARATORY SURVEY FOR SECTOR LOAN ON REHABILITATION OF IRRIGATION FACILITIES**

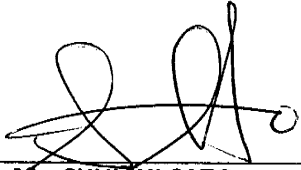
Subject: **Workshop on the Collection and Validation of Data Requirements, Region 6**

Date and Time: June 1, 2009, 8:30 – 17:00

Venue: NIA Region 6 Office, Jaro, Iloilo

Attendance: See attachment 1

1. The workshop was held on June 1, 2009 at the NIA Region 6 office. In attendance were staff and officers of Region 6, namely the respective heads of the engineering and operations and finance and administrative; IDOs; and designated heads of IMOs of Aklan-Antique, Iloilo-Guimaras and Negros Occidental. The complete attendance is attached as Annex 1.
 2. The participants were apprised of the proposed JICA-SLRIF project, its nature and configuration especially in the selection of the 34 sub-projects. The JICA survey team explained the requirements of the physical and institutional components expected from the Region in order to complete the data needed in the drafting of the project proposal.
 3. The deadline set by the JICA survey team for Region 6 to submit the data requirements for the 6 candidate sub-projects (Mambusao, Suage, Aganan, Sta. Barbara, Barotac Viejo and Pangiplan) is on June 8. The Region 6 staffs agreed to meet this deadline. Hard copies and e-files will be sent to the JICA-SLRIF office on June 8 by courier.
 4. The focus group discussion (FGD) was scheduled to be held on June 5 at the NIA region 6 office. The senior IDO of Region 6 was advised to make the invitation of 16 IA representatives and about 12 staffs (agricultural extension, infrastructure and planning officer) of the municipal LGUs of Oton, Barotac Viejo, and Mina, including the Provincial planning officer and provincial agriculturist of Iloilo Province. Logistics support for the conduct of the FGD will be extended by the IDO staffs of the Regional office.
-



Mr. SHUICHI SATO

Team Leader

JICA Preparatory Survey for Sector Loan on
Rehabilitation of Irrigation Facilities

NIA, Jaro, Iloilo

June 1, 2009

Witnessed by

Mr. TERUHISA TAJIRI

JICA Expert to NIA

Japan International Cooperation Agency (JICA)

Philippines Office

JICA Preparatory Survey for Sector Loan on Rehabilitation of Irrigation Facilities

List of Attendants for Workshop / Meeting

Title: Regim 6 Workshop

Date: June 1, 2009 Time: _____

Place: Regim 6 Office

	Name	Organization/Office	Signature
1	ABAZO, GODFREDO P. IV	HIK REG. 6	
2	RICARDO P. PENAS	NIA-REG XXXXXXXXXXXX	
3	MANOLO R. RAMIREZ	"	
4	DELICIANO P. SALVETE	"	
5	SHARON ROSE F. SUCASAN	Iloilo - Guimaras IRR	
6	MILDRED B. VILLA	NIA - REG-6	
7	JOCELYN L. LAURILLA	NIA - REG. 6	
8	RENATO OCTAVIANO	NIA - REG. 6	
9	MA. CELMA S. LATAQUIN	NIA - REG VI	
10	ARTHUR C. SANICO	NIA - REG. 6	
11	JOY A. BARRERA	NIA - REG. 6	
12	JOEL A. BASTO 0917710990 (024) 4610494	NIA - REG. 6 PARTICIPANT	
13	JULIE M. FORDS	NIA - Reg. 6	
14	ANTONIO A. LAMSON	09196826005 (077) 7217862 NIA - R-6	
15	Lorena B. SIOCO	NIA - Reg. 6	

List of Attendants for Workshop / Meeting

Title: _____

Date: _____ Time : _____

Place: _____


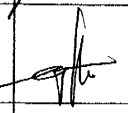
	Name	Organization/Office	Signature
1	ASIL S. AREÑO	NIA - REGION 6	
2	Ronie B. Lagorin	NIA - Region 6	
3	Florencio P. Colonado	(033) 329-3862 09159996943 NIA - RCo	
4	EDUARDO F. LOHIC	NIA - G	
5	DIONISIO B. ASENSIO	Pol. # (033) 470162 NIA, REGION 6	
6	Alma M. Jarloc	NIA, Region 6	
7	RIZALDO F. CONCEPCION	NIA, Region 6	
8	EDGAR D. SOLDEVILLA	3620314, 09274015061 NIA - REGION 6 (BYRIS)	
9	LIZA L. ENICOLA	NIA - REG. 6	
10	Ernie T. Bahajada	NIA Reg. 6	
11	RAYMOND B. MOJARES	09189911394 - IGIMO NIA - Reg 6	
12	JAIAP C. MELENDEZ	09228682622 Office (033) 320000 IGIMO NIA Reg. 6	
13	MELCHOR I. BAJAJADE	09273851863 - Aganan - Sta. Primita IGIMO NIA Reg. 6 3294175 - landline	
14	NICO T. TRIBUNSA	IGIMO, SPS, Tuguegarao	
15	Xenia Socorro B. Jamero	NIA Regional office / RIM staff	

List of Attendants for Workshop / Meeting

Title: _____

Date: _____ Time : _____

Place: _____

	Name	Organization/Office	Signature
1	Les L. Golley	NIA - IDD R-G	
2	EDGARDO P. CURIOSO	099 897 8540 NIA - JALVR JALVR-UR (033) 529 7619	
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Focus Group Discussion: Region 6, Iloilo (June 5, 2009)

An explanation of the background of the proposed project was first presented to put the participants in the proper perspective. The facilitator steered the discussion by posing generic issues on the vicious cycle of rehabilitating irrigation facilities. Each participant was made to write his/her opinion on an improvised card and then pasted on the bulletin board. The observations yielded concerns on institutions and physical. Only the institutional issues were tackled and these were grouped according to IA and LGU concerns. The FGD took off from these concerns.

Participants in the FGD were selected IAs in the systems located in Iloilo. These included the chairman, treasurer and two members. The LGUs were mostly the municipal level, also in Iloilo composed of the municipal agricultural officer, infrastructure specialist, and municipal planning officer. The Provincial agricultural officer and planning officer of Iloilo also attended the FGD.

The complete list of attendance is attached as Annex 1.

Irrigators Associations (IAs)

1. In general, there is a general perception of weakness among the IAs. Members seldom cooperate with one another. IAs generally admitted their deliberate refusal to pay ISF. Accordingly, they refuse to pay ISF because water is not enough and not delivered on time. The shortage of water is oftentimes a man-made problem as stealing of water during the night is rampant. However, the shortage of water during the dry season is apparent at the main river source, which is caused by denuded watershed. During the wet season, irrigation is augmented through rainfall, but due to siltation of the major canals, water is oftentimes wasted and does not reach the farm lots, most especially at the downstream. It was confirmed by the LGU participants that almost all of the watershed areas surrounding the irrigation systems in Iloilo-Guimaras are denuded.
2. The IAs still believed that their organizations can be rejuvenated. Suggestion from the participant emerged the concept of re-organization according to lateral. It was conveyed that this approach could lead to clustering of members based on same TSAG that would permit collaborative efforts.
3. Previous rehabilitation work on major irrigation infrastructure, according to IAs, did not reach their useful economic life because of defective workmanship. In this regard, it was suggested that the IAs be involved not only in construction but also as early as in the detailed design/engineering in order to ensure quality and proper completion of the infrastructure works.
4. Dumping of garbage and other waste was reported to obstruct water flow along the main canal. Members do not bother to apprehend people throwing garbage along the main canal for lack of support from the community. The IAs believed that such a problem can be solved through the cooperation of the LGUs.

5. IAs are willing to accept responsibility under the IMT. However, it was conditioned that acceptance of responsibility is contingent on the excellent condition of the irrigation systems. It was also proposed that a greater share of the ISF be given to the IAs for the proper maintenance of the systems.

6. The IAs are now aware that responsibility over O&M can be undertaken efficiently and effectively only if all water users are members of the IA. There is now an active campaign by more of the progressive IAs to enforce a mandatory membership.

Local Government Units (LGUs)

1. The concerned LGUs recognized their limited absorptive capacity to implement components besides irrigation infrastructure. It was suggested that the LGUs will actively participate in the proposed project only to the extent of their capacity. Accordingly, while the LGUs can access funds to implement their projects, they still need to put up their counterpart funds, meaning it must come from their own revenues.

2. The LGUs in Iloilo have a common sentiment to extend support for agricultural extension. It was revealed that some municipal LGUs have (Oton and Barotac Viejo) put up seed production centers in cooperation with farmer co-operators inside the NIS to encourage among IA members to use certified seeds to improve paddy yield.

3. The LGUs raised an important issue with respect to their counterpart funding. It was suggested that during implementation, an organization at the local level must be established to determine budget and responsibilities. The LGUs are ready to participate provided there is a clear delineation of responsibilities.

4. Watershed denudation has been raised as a critical problem in Iloilo-Guimaras. It was reported that there are efforts made by the Iloilo Provincial Government together with the municipalities to set up nurseries for tree planting on the denuded areas.

5. The LGUs have sounded off to assist NIA in the collection of ISF. This is a good gesture considering that most IAs in Iloilo-Guimaras have deliberately refused to pay ISF. With the extended help coming from the LGUs, legal measures can be imposed on delinquent farmers. This could help facilitate the collection of ISF on time.

6. Equipment for repairs and maintenance of damaged irrigation facility are readily available from some LGUs, and these equipment are normally lent by the LGUs in case the IAs make such a request. For repairs, cost sharing is normally practiced between the IAs and the LGUs. Some LGUs even provide subsidy in the form of free fuel for the use of the equipment.

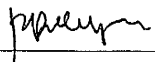
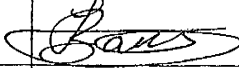

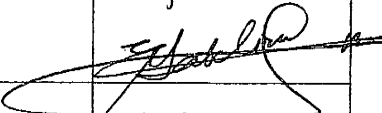

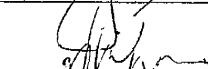
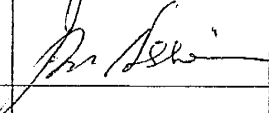
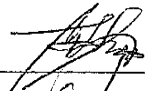

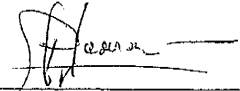
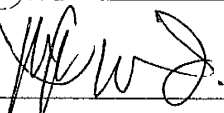
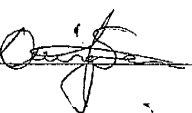
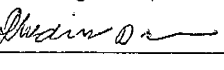
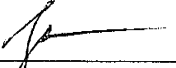

JICA Preparatory Survey for Sector Loan on Rehabilitation of Irrigation Facilities

List of Attendants for Workshop / Meeting

Title: Focus Group Discussion, Region 6 (Irrigators Association)

Date: JUNE 05, 2009 Time: 8:30 - 11:30 A.M.

Place: NIA REG. VI Office

	Name	Organization/Office	Signature
1	ROBERTO S. BALUYO	HAMPAPRO IA INC.	
2	Samuel B. Barcelona	" "	
3	CYREN C. DILE	" "	
4	Edgardo B. Gabelino Jr	" "	
5	Pacimera B. Heluyan	PALACATIAN IA	
6	Jonan Hechanon	PALACATI-AN IA	
7	Assin Roger M.	CABAY IA	
8	GABRIEL L. SINDY	LABAY I.A.	
9	Hernane Lindero	LABAY I.A.	
10	EDUARDO M. ALCASAREN	PALACATI-AN I.A	
11	NUMBERTO N. PAÑARES JR.	MACATUAN IA	
12	DOMINGO S. SONORA	MACATUAN IA	
13	Rhoderic Dicau	Macatuan IA	
14	SHARON RUSE P. JUCARAN	NIA Reg 6 - 100	
15	GRACE S. COMZARCA	NIA - ARBRES - 100	

JICA Preparatory Survey for Sector Loan on Rehabilitation of Irrigation Facilities

List of Attendants for Workshop / Meeting

Title: Focus Group Discussion, Region 6 (Irrigators Association)
 Date: JUNE 05, 2009 Time: 8:30 - 11:30 A.M.
 Place: NIA, Region 6, Office

	Name	Organization/Office	Signature
1	JOY A. PASIERA	NIA- Reg-6 - 100-5475	
2	LEO L. GALLEGOS	NIA - R6 - 100 5475	
3	MANOLO R. RAMIREZ	NIA - R6	
4	^{VP RIRI} ROBERTO SUICABIN	PHILKATI-HN IA	
5	BENJAMIN S. NUVEZ	NIA R/O	
6	MA. CELINA S. LATADIN	NIA R/O	
7	F. CORDERO	NIA R/O	
8	ANTONIO A. LANZON	NIA R.O.	
9	RENATO OCTAVIANO	NIA - R.O.	
10	Ronie B. Lagorin	NIA - R/O	
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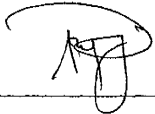
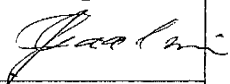


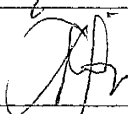
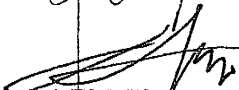
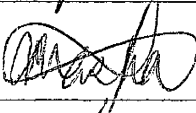

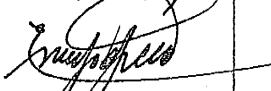


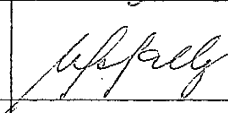
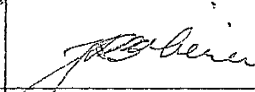

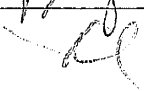
JICA Preparatory Survey for Sector Loan on Rehabilitation of Irrigation Facilities

List of Attendants for Workshop / Meeting

Title: Focus Group Discussion, Region 6 (Local Government Units)

Date: JUNE 05, 2009 Time: 1:30 - 4:30 P.M.



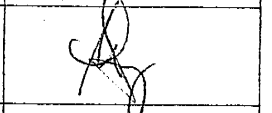
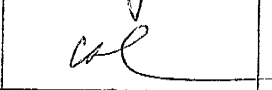
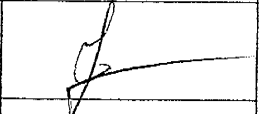
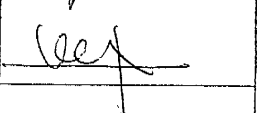
Place: NIA Region 6 Office

	Name	Organization/Office	Signature
1	FRED J. PIMUELA	LGU, MIMAS - MA	
2	Limmy C. Carolan	" MPDO	
3	Jesed T. Peñala	Com. - Patac Viejo	
4	INILFREDO H. Gueyos	LGU - PATA, ILOILO KINAO	
5	WISA A. ATAN	UoV - Mima-Hondo - Engineering	
6	DR. I. I. TOVON	PAD - IWMO	
7	Antina, Ju May I	LGU - Dlac. Viejo	
8	JUEL CUMPTAN	LGU - BTAC VIEJO	
9	ERNESTO C. TICAO	LGU - OTAN	
10	Immanuel Pet	LGU - Iloilo	
11	Sunshine Bando-Jamero	RIM staff	
12	Leo L. Galleg	IDD	
13	JOY A. BARRERA	NIA - Reg-6	
14	MARCO R. RAMIREZ	SDD - RC	
15	J. FRED P. PENA	NIA RC	

JICA Preparatory Survey for Sector Loan on Rehabilitation of Irrigation Facilities

List of Attendants for Workshop / Meeting

Title: Focus Group Discussion, Region 6, (Local Government Units)
 Date: June 05, 2009 Time: 1:30 - 4:30 P.M.
 Place: NIA, Region 6 Office

	Name	Organization/Office	Signature
1	STEPHEN GERENTE	UGM OTM	
2	BENIGNO S. POVEDA	RIO	
3	Antonio A. Lanza	NIA R.O.	
4	MA. CELIA S. LATARQUIN	NIA R.O.	
5	Renie B. Lagoria	NIA RIO	
6	J.P. Colon	NIA, RIO	
7			
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9			
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Annex B-5

Records of Workshop and Focus Group Discussions In Regions 10 to 13

Table B5-1 Summary of Local Issues, Problems, Request and Counter Schemes on FIAs/ IAs Commented in the Focus Group Discussion in Regions 11, 12 and 13

Item	Issues and Problems	Requests	Counter Schemes
1. Physical problems on NIS	<ul style="list-style-type: none"> a. Damaged canals due to neglect of maintenance. b. Silted canals due to soil erosion at upstream areas caused by illegal logging at watershed area. 	<ul style="list-style-type: none"> a. Lining of canals. 	
2. Design and supervision of construction	<ul style="list-style-type: none"> a. Poor functionality of irrigation facilities due to use of low quality materials 	<ul style="list-style-type: none"> a. Participation of IAs in design and construction. 	
3. Maintenance	<ul style="list-style-type: none"> a. Improperly maintained facilities due to lack of money to pay for compensation of laborers. b. Poor maintenance of facilities due to lack of consciousness among IA members. 	<ul style="list-style-type: none"> a. Complete turn-over of facilities to have control over maintenance and operations. 	
4. Operation	<ul style="list-style-type: none"> a. Difficulty in following the quick turn-around (QTA) mode of cropping calendar (late dry season) due to differences in timing of land preparation and planting and difficulty in availing of good quality and short-maturing rice varieties coupled with expensive fertilizers. 		
5. Participation of IA in the project implementation.	<ul style="list-style-type: none"> a. Negligible participation of IA members from pre-construction to construction due to non-invitation/involvement by NIA. b. Lack of consciousness among IA members due to absence of policies on ownership and stake on the irrigation facility. 		<ul style="list-style-type: none"> a. IA takes action on proper representation of IAs in various fora/discussions to ensure demand-driven needs are considered in rehabilitation works.
6. Agricultural Support Service	<ul style="list-style-type: none"> a. Constrained capacity to invest in livelihood opportunities due to lack of technical skills and working capital. b. Low buying prices for paddy with high moisture content due to lack of dryers. c. Shortage of production capital to buy good seeds, fertilizers and other inputs due to low/negligible savings. d. High cost of transporting farm produce because of deteriorated farm to market roads. e. Inaccessible farms due to deteriorated farm-to-market roads. f. Non-operational flat bed dryers (mechanical aspect) given by some LGUs due to lack of serviceable parts. 	<ul style="list-style-type: none"> a. Technical assistance from LGU to deliver the parts needed to operate flat bed dryer. 	
7. Institutional		<ul style="list-style-type: none"> a. Increase ISF share to be used for routine maintenance b. Modify QTA implementation, through clustering of land area and farmers to allow for proper soil structure conditioning. c. Support for assembly marketing of paddy to be jointly implemented by the federation of IAs (FIAs). 	<ul style="list-style-type: none"> a. IA takes information campaign among community stakeholders to preserve and protect the irrigation facility. b. Re-organize dormant or inactive IAs by lateral to ensure strict compliance on O & M. c. IA initiates consensus building among the IA members to ensure proper design and construction of the facility.

Table B5-2 Summary of LGU's Local Issues, Problems, Counter Schemes on Rehabilitation Works of NIS Commented in the Focus Group Discussions in Regions 11 to 13

Item	Issues and Problems on Rehabilitation Works of NIS	Counter Schemes
1. Suitability of regional development program.		a. LGUs improve coordination program between NIA and LGUs to give priority of the projects in annual budgeting and funds programming.
2. Staff Resource for Counter Schemes	a. Shortage of existing agricultural officers for third class municipalities.	a. Provincial LGU to extend training to municipal agricultural officers to improve skills on technology promotion.
3. Financial Aspect	a. Budget for demo farms is dependent on nationally-funded projects, and without such support, activity is totally stopped. b. Mobility of agricultural extension officers is low due to lack of travel fund.	
4. Participation to the Project Implementation	a. Lack of information about project, hence minimal support from LGUs.	a. LGUs improve capacity of LGU personnel to prepare project proposals through a training program by Department of Interior and Local Government (DILG) to ensure projects fund access to the municipal development fund (MDF).
5. Support to Ordinary O & m	a. Shortage of heavy equipment due to lack of budget for procurement.	
6. Agricultural Support Service		a. LGUs provide reliable post-harvest facilities to ensure optimal operation of the post-harvest facilities.
7. Institutional	a. Unclear delineation on the involvement of LGUs on the rehabilitation of NIS projects.	

* FGD was omitted in Region 10 due to the short notice of schedule that may not allow enough attendance of participants.

**NIA-JICA ENTRY WORKSHOP ON THE SECTOR LOAN FOR THE
REHABILITATION OF IRRIGATION FACILITIES (SLRIF
REGIONS XI, XII & XIII
Grand Men Seng Hotel, Pichon St., Davao City
May 18, 2009**

REGISTRATION:

At 8:00am, participants arrived and registered. There were a total of 60 participants coming from the NIA Regions 11, 12 and 13 composed of Regional Managers, Division Managers, IDD Supervising IDO, Provincial Irrigation Management Officers, Planning Engineers, NIS Principal Engineers, NIS Technical Staff and the JICA-SLRIF consultants. Right before the session, kits were distributed to the participants for reference purposes.

PRELIMINARIES:

The SLRIF entry workshop started at 10:00 am with a short opening program composed of the Invocation, the national anthem and the welcome address given by Regional Manager of NIA-XI, Engr. Felix M. Razo and the presentation of participants. Ensued immediately was the speech of Engr. Modesto Tolentino, Regional Manager of NIA-12 followed by other regions' representatives' messages.

The JICA-SLRIF Consultants rendered series of presentations. Mr. Itsuo Kihara presented the Overview of JICA-SLRIF while Engr. Ismael D. Tabije handled the lecture/discussion on Pre-Feasibility Requirement for Proposed NISs Sub-projects who emphasized on the submission of documents required otherwise, the region's proposed project for SLRIF could not be considered for implementation, including general layout maps from each NIS and location map for every region. Engr Roel Briones presented on the updates of JICA Inventory Survey and the observations of the field surveys conducted. The Institutional development aspect was presented by Mr. Virgilio Cabezon and Ms. Rosalina dela Cruz of the NIA Central Office. While the Agro-economic aspect, Mr. Fernando Antolin gave the orientation.

ISSUES PRESENTED & DISCUSSED DURING THE OPEN FORUM

Moderated by Ms. Rosalina dela Cruz

1. FUNDS FOR ENGINEERING ACTIVITIES

**2. COMPLETION /CONSTRUCTION OF BUAYAN-TINAGAKAN RIS TO
REPLACE REHAB OF SILUAY RIS**

Region 12 requested that instead of the proposed rehabilitation of Siluay RIS, they prioritized the construction and completion of Buayan-Tinagakan RIS claiming that this irrigation system has a service area of 1,174 which consists of

384 hectares area to be restored; 200 hectares to be generated and 509 hectares existing area.

Engr. Briones emphasized on the criteria among others, evaluation of the system is based on original design of the project. He reminded that only rehabilitation of irrigation facilities in the NIS can be accommodated.

RIM Tolentino made comment that the 1,062 hectares of Siluay does no longer exist due to land conversion from rice field land to residential and commercial area. As such, the head of Siluay requested for the implementation of Buayan-Tinagakan RIS.

Both Mr. Kihara and Engr. Briones stressed criteria as the basis of project selection. Mr. Kihara said that due to limited time - 1.5 months to finalize projects for implementation, criteria will be abided.

Engr. Tabije told the Region 12 Staff to continue submission of required data for Buayan RIS as this case will be discussed between NIA and JICA SLRIF Survey Team.

3. REQUEST FOR CONSTRUCTION OF IA BUILDING

Construction of buildings for the irrigators associations was requested. In reply, the survey team mentioned that it may be included in the soft component.

4. OVERTIME

Engr. Tabije informed that to expedite preparation of documents required for the SLRIF and beat the deadline due on May 29, 2009 during the exit Workshop, an honorarium for overtime will be provided at P 120,00/ hour for those staff directly involve in data preparation. Engr. Tabije explained that NIA shall determine the number of man-days needed to undertake overtime depending on volume of works to be accomplished. Hence, he instructed the NIS or the IMO to justify and certify the overtime works undertaken by indicating the date, name of person, and description of works done. Prescribed forms were distributed.

5. CLARIFICATION:

Exist conference is scheduled on May 29, 2009, but Region 12 was not among the list of region participant. Survey Team apologize for a clerical error and outright correction was made to include Region 12.

Concrete lining for main canals and one (1) kilometer average on farm ditches may be considered in the preparation of the program of works. Engr. Briones related that farmers in other countries are provided with concrete canals in the irrigation facilities. Hence, farmers out there could focus on farm production and

are not bothered of weeding activities on canals. However, bottom line is EIRR should be equal and higher than 15% as required by NEDA.

Engr. Soriano made mention about the development cost and said that Region XI will submit all data, the unit cost and the derivation of development cost.

Mr. Kihara emphasized on the necessity of canals to be functional and focus on the functionality of irrigation structures and other facilities. He noted that defective canals and facilities hamper conveyance of water and affect production of farmers.

Recorded and prepared by:

BERNADETTE G. ROBIN
Senior Irrig. Dev. Officer A
NIA, Region XI

Concurred:

ROEL BRIONES
Regional Engineer

ISMAEL TABUE
Regional Engineer

ITSOU KIHARA
Irrigation Expert

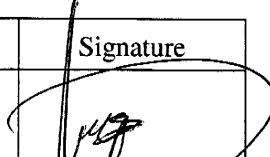
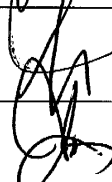
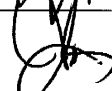
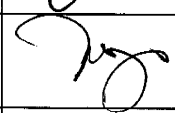
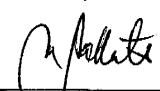
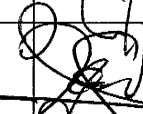
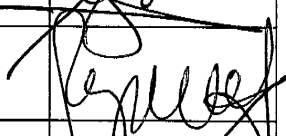
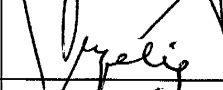



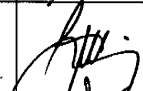
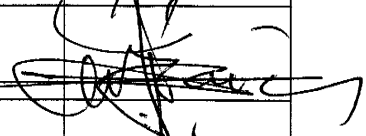
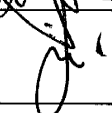
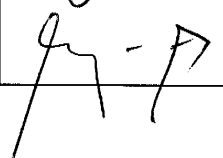
JICA Preparatory Survey for Sector Loan on Rehabilitation of Irrigation Facilities

List of Attendees for Workshop / Meeting

Title: NIA-JICA ENTRY WORKSHOP FOR SLRIF OF REGIONS 11, 12 & 13

Date: May 18, 2009 Time: _____

Place: Grand Men Seng Hotel, Fichon St., Davao City

	Name	Organization/Office	Signature
1	GILG VALDEZ	DVO. SUR PIMO	
2	ROLANDO R. ZACARIAS	REGIONAL CENTER	
3	ALBERTO B. DIMSON	DIV. MGR - IMO ANDSON	
4	MA. LOURDES B. DANUSA	NIA CENTER - APN	
5	ARMIE V. Ballentes	NIA-12 - Regional office	
6	Mario H. Sanda	NIA-12	
7	Fredelino C. Gallefo	NIA-12 O&M	
8	Paz Felip	NIA - RIO XI	
9	Itsuo Kihara	JICA - Team	
10	FERNANDO MADRIN	JICA - TEAM	
11	Roderic Pulay	NIA-12 C.O.	
12	Roderic Pulay	JICA SURVEY TEAM	
13	ARIEL BARRA	NIA JPD - CO	
14	FELIX M. PAZ	NIA-XI	
15	Encarnacion Soriano	NIA - XI	

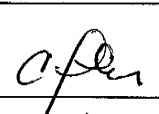

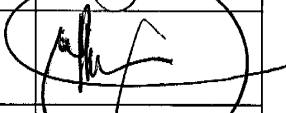
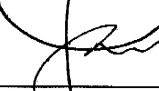



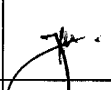

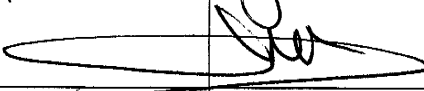

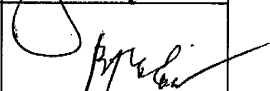
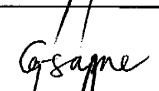


JICA Preparatory Survey for Sector Loan on Rehabilitation of Irrigation Facilities

List of Attendees for Workshop / Meeting

Title: NIA-JICA ENTRY WORKSHOP FOR SLRIF OF REGIONS 11, 12 & 13

Date: May 18, 2009 Time : _____

Place: Grand Men Seng Hotel, Pichon St., Davao City

	Name	Organization/Office	Signature
1	CEGAR L. FELIX	ANDAMAD RIS	
2	JOEL A. CATAR	CABRUS	
3	BEL A. YAPE	COORDINATOR	
4	WELZ. SORIANO	REG XI	
5	ELMER M. RESPICIO	REG. XII	
6	ZAINAL S. MUHAMMAD	REGION 12 NIA GEN.	
7	Dandee M. Anangatin	SILBIS - SAR-PROV- NIA	
8	HERMINIGILDO K. RETEC	REGION XI	
9	Eulynne E. Ting	NIA CARAGA	
10	MODESTO TOLENTINO	NIA 12	
11	MARIBEL R. BUNSEP	NIA XI SECRETARIAT	
12	BERNADETTE ROBIN	NIA XI SECRETARIAT	
13	GIA MARISSA T. CORGANE	NIA XI SECRETARIAT	
14	PENTE P. NIERRE	NIA XI PROMORA RIS	
15	CARIDAD SISON	NIA - Reg XI	

JICA Preparatory Survey for Sector Loan on Rehabilitation of Irrigation Facilities

List of Attendees for Workshop / Meeting

Title: NIA-JICA ENTRY WORKSHOP FOR SLRIF OF REGIONS 11, 12 & 13

Date: May 18, 2009 Time: _____


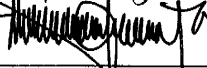
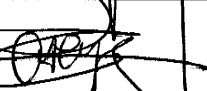
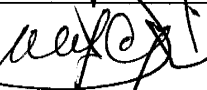
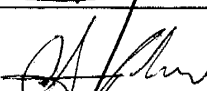

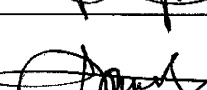
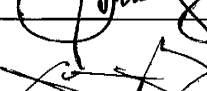

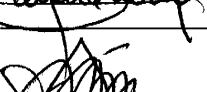

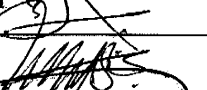

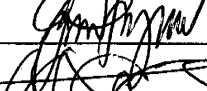
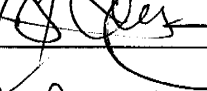
Place: Grand Men Seng Hotel, Pichon St., Davao City

	Name	Organization/Office	Signature
1	TIRSO M. DALES, JR	NIA - R.O. XII	
2	E. LLAPAN	NIA - R.O. XII	
3	S. JOLENO	NIA - RI - XU	
4	A. FIEMRO JR.	NIA PRIS	
5	MA-CABATUL	NIA - DIEOS	
6	ED COLLADO	NIA - MABXUS	
7	G. DUNGOS	NIA, R-XII	
8	A. BORRERO	NIA - R.O. XII	
9	VIRGILIO CABEZON	JICA - SLRIF	
10	RONALD BAURILE	NIA - RO XI	
11	Alex Yap	NIA - RO XI	
12	Dioscoro Tiempo	Mar RIS, R-XI	
13	MANUEL RANESES	NIA - PRIS	
14	Penny Treviñas	NIA Reg 12	
15	Evelyn Braganza	NIA Reg. 12	

JICA Preparatory Survey for Sector Loan on Rehabilitation of Irrigation Facilities

List of Attendees for Workshop / Meeting

Title: NIA-JICA Entry Workshops on the SLRIF for Regions 11, 12 & 13
 Date: May 18, 2009 Time: _____
 Place: Grand Men Seng Hotel, Pichon St. Davao City

	Name	Organization/Office	Signature
1	RAMON S. PUJERIK	RSIK XII	
2	MADANTE P. GANDIJA	NIA-REGION 13	
3	ORLANDO A. TIBANG	NIA-12	
4	MANOLITO C. TOMINA	NIA-14	
5	CESAR D. AGDULIA	NIA-12	
6	GIDEON R. REFORMA	NIA-12	
7	WILSON S. NAZARETA	NIA-13	
8	MARIO S. LOMBOY	NIA-13	
9	Serafin Y. Guillero Jr	NIA 13 ^{Opn}	
10	Saturnino M. Apiag	NIA-11	
11	Ismael D. Tabije	JICA-SLRIF	
12	ALI S. SATOL	NIA-SILBERS, GSC	
13	Gina L. Lozano	- do -	
14	Edgardo Draculan	IMO - DUD Sur	
15	CONRAN P. LIRU	NIA-Reg XI	

**PREPARATORY STUDY FOR THE SECTOR LOAN OF REHABILITATION OF
IRRIGATION FACILITIES (SLRIF)
EXIT WORKSHOP FOR REGIONS X, XI, XII & XIII
Waterfront Hotel, Lanang, Davao City
May 29, 2009**

REGISTRATION:

Registration started at 7:45am. 30 participants attended the workshop composed of NIA staff from the NIA Regions 10, 11, 12 and 13 who are concerned Regional Managers, Provincial Irrigation Management Officers, NIS Principal and the JICA-SLRIF consultants.

WORKSHOP PROPER:

At 9:30am, the workshop began with an opening program and immediately followed by the presentation of Proposed Rehabilitation Works and Status of Compliance with Documentaty Requirements by IMOs of Selected NISs.

Region X was supposed to set off the presentation but inasmuch as some materials had yet to be prepared, Region XI took the time slot.

REGION XI:

8. MAL RIS

Davao del Sur

Presenter: Engr. Edgardo T. Draculan

Issues/Questions Raised/Comments/Recommendations:

Mr. Kihara asked why not close the intake if the silt emanated from this point. Engr. Draculan explained that the silt could no longer be controlled especially in the flooding that occurred during night time. The gatekeeper closes the gate but he does not live in the damsite area due to unstable peace situation. As such, occurrences of flooding in the night are left uncontrolled. Engr. Draculan added that there is no problem with the condition of the steel gate. Mr. Kihara also asked why suggest to construct rectangular canal instead of trapezoidal lining of canal. Engr. Draculan said that the canals of Mal RIS are already leaking and by experience, rectangular type of canals in Mal is more durable.

Engr. Briones who has sized up the explanation rendered expressed that it would be hard for them consultants to justify if Mal RIS could not establish a strong basis. He suggested to indicate the following:

- Specific location of structures to be repaired, the stationing of canal,
- Type of soil foundation such as silts, sand, and sedimentary rocks
- Other problems to justify the canal lining

Engr. Briones further sought clarification between Mal RIS' 2 requests:

- Inclusion of procurement of heavy equipment which can be utilized for sustainability of maintenance like desilting works, and
- Inclusion of Desilting Works at the Diversion Dam in POW,

At this point, Regional Manager of NIA-XI, Engr. Felix Razo explained that for a start, the system needs funds for desilting activities. Inasmuch as, siltation is recurring in nature, sustaining desiltation shall be undertaken by using the equipment.

Engr. Briones noted on the following relevant items at diversion site and canals:

- Inclusion of Fencing, Lifting mechanism and canopy;
- Possibility of manning the gate from manual to diesel and to make it work by electricity;
- Gatekeeper's quarter;

With these, he verified the existence of quarry downstream of the dam. Engr. Draculan explained that there has been no quarry activities in the Mal RIS. The heavy deposition of available aggregates are sometimes used by NIA for other projects.

Regarding Watershed concerns, Engr. Briones advised to undertake collaboration with IAs and LGUs to advocate protection of watershed areas. He cite examples in Mal Mar policies.

2. PADADA RIS

Davao del Sur

Presenter: Engr. Edgardo T. Draculan

Issues/Questions Raised/Comments/Recommendations:

Presented are the hereunder items for rehabilitation or repair:

- Intake Gate shall be replaced since it is already dilapidated. The sluice is not functioning well;
- The downstream portion of the diversion structure needs to be repaired. Protection dike should be extended since the existing one is already hanging. It is suggested to replace the slide slope downstream located along the sluice way;
- The Steel Gate is already dilapidated. It is easy to lift than to release;
- Main Canal is silted and scouring is excessive in the embankment;

Engr. Draculan explained further the need to extend the canals. Massive erosion posed a problem as this has been obstructing smooth conveyance of water. The Laterals have defective structures of which on 70% is functional. He emphasized that this is a necessity. Mr. Kihara advised to justify the proposed project. Engr.

Draculan said that it is supported with the pictures. Engr. Briones gave a clue that JICA prefers narrative description of the items for rehab.

Presentation continued on the following structures for rehabilitation:

- Construction of Skimmer Wall;
- Road conditions are terribly poor that they need surfacing;

Regarding the Roads, Engr. Briones verified if the roads are turned over to the LGU. Engr. Draculan informed that irrigation service roads are not among the LGUs' coverage. Engr. Razo explained that roads are property of the NIA. Although there are certain negotiations, the maintenance is the sole responsibility of NIA. Engr Briones point some clarification, as per previous discussion with JBIC/JICA, all roads inside the irrigation network are classified access roads, intrasite roads and service roads of NIA while all roads outside the service area are Farm to Market Roads (FMR). A NIA road which has a capacity of 5-10 tons but by private vehicles used trucks more than the required weight, which damages the roads. Engr. Draculan said that sugarcane trucks ply the irrigation roads frequently but they have not a way to control usage of such roads. Engr Briones suggested on the prevention measures or by limiting the weight of truckloads to pass specifically during rainy days which would ultimately damage the road.

Engr Briones suggested collaborating with the LGU regarding the roads in the form of policies to sustain maintenance of the roads. Engr. Razo sought confirmation that Padada can now improve the road. Engr. Briones said emphasized collaboration with MLGU in order to sustain its road maintenance works.

Engr. Razo related that the region's present state is its cropping intensity (CI) which is decreasing. Forecasting this situation, the irrigation facilities should be repaired and sustained to increase cropping intensity.

Engr. Briones observed the following:

- GIS or Parcellary Mapping is not sustained. It may be due to regionalization and funding constraints but he stressed how important it is to have one parcellary map.
- Right of Way (ROW) should settled before the start of the project otherwise the following consequences will be borne by the NIA:
 - Either that the project could hardly pushed through or structures are built along the canals;
 - The heirs claim ownership of the land and refuse to vacate;
 - NIA could hardly do maintenance works in the canals due to limited space

To avoid these problems, NIA should start collaborating with IA and BLGU & MLGU for ROW awareness program and inventory of ROW Settlers. Further, formulate course of action for this illegal construction of buildings along canal ROW.

At this point, the field officers were instructed to send the pictures by CD addressed at PDP, 5th Floor, NIA, Quezon City.

Before the report ends, Engr. Tabije checked the list of Mal and Padada RIS as to FS, Indicative POW, Institutional, Agro-Eco and return of USB. Said requirements were all submitted except the Updated Profile/ updated survey initially requested by JICA in 2006. Deadline for the submission of Updated Profile of Survey will be on June 5, 2009.

At 1:30 in the afternoon, presentation of proposed rehabilitation projects for SLRIF continued.

REGION X

1. PULANGI RIS

Presenter: Engr. Jimmy Apostol

Issues/Questions Raised/Comments/Recommendations:

Illegal Checking was one of the problems presented. Engr. Makiling, Regional Manager NIA-X describe NIA as very humane in situation where farmers are in dire need of water and the fact that this is a small one, NIA gave consideration.

However, canal lining and repair of the gates in turn outs need to be rehabilitated as the linings are already cracking. At present, IAs are undertaking small repairs and lateral construction but such are not substantial. Engr. Briones observed that destruction of canals may be due to the trees grown on the canal banks. Its roots crawled in search of water. Engr. Maquiling noted that these canals which were built in 1976 are already old. Engr. Briones agreed, however, embankment should last long but canals deteriorated and slope embankment collapsed due to softening of compacted embankment caused by seepages along space attributed by roots.

Engr. Apostol added the repair of steel gate and building of Tower. Mr. Antolin reminded of the agro eco data needed in which Engr. Apostol responded to send it immediately upon their return to the system.

2. MULETA RIS

Issues/Questions Raised/Comments/Recommendations:

Access Road within the dam compound of the Diversion Dam has become a public road which the structure is attractive to vandalism and threat. Engr. Briones

suggested provision of enclosure and conducting collaboration with LGU concerned and the barangay officials.

Problem on the area generated of Muleta posed a problem to qualify the proposed project. Reasons for this are: the area needs to undergo land development due to its topography and the area are converted to sugarcane. Engr. Tabije made it clear that there will be no allocation for land development in this project. Engr. Briones claimed that as per interview in the field, farmers cultivate other crops such as sugar cane, corn, pineapple due to lack of water, however, this crops still needs water to reach potential production. In addition, farmers have freedom to cultivate whatever crops they want and anytime could go back cultivating rice.

Engr. Tabije questioned why the design area is 4,000 hectares but the area irrigated is only 1,600 hectares. Engr. Gaudencio said that it is due to denudation. How exactly will the project work out? asked Engr. Tabije. Mr. Gaudencio defended that it has its feasibility that will show the project's potential.

Requirements of documents were monitored. Deficiency was on the submission of Updated profile, like in other proposed NIS, Muleta is required to send the documents and should arrive in Manila on June 5, 2009.

There are no so much problems on the canal facilities as all canals are concrete lined.

3. MANUPALI RIS

Issues/Questions Raised/Comments/Recommendations:

Manupali RIS has a service area of 1,500 hectares and at present, Engr. Ramos, irrigation superintendent, said that actual irrigated area is 1,700 hectares. With the future construction of reservoir upstream, this NIS programmed 3,500 to irrigate. Engr. Briones asked whether the area was part of the IS in the original construction but no canals facilities was constructed. The construction of reservoir will augment the water requirement of the service area.

There are no so much problems on the canal facilities as all canals are concrete lined.

REGION XII

1. LAMBAYONG RIS

The change of river course is one big issue that affects the area covered by the system. Control has been done by the DPWH with the use of gabions, but such have been damaged already. Region XII was advised to submit separate reports to show in part, are the area caused by the change of water course and review of the 109M cost of road.

Another problem is one that requires technical challenge for Desilting. Engr Tanudtanud of Region 12 reported that when they constructed Skimmer Wall, siltation reduced by 50%. They will provide pictures of this condition. *"The presenter disclosed that there's a limit man can do against nature"*.

Engr. Tabije ran down the checklist of the requirements. Lambayong RIS has no updated Pofile and Engr. Bugacia said that they will revise the POW to include also IA building just like what Region XI has done.

2. TACURONG RIS

Formerly named Dumaguil RIS, Tacurong RIS has a service area of 2,300 hectares. Due to heavy siltation, 1,700 hectares is presently irrigated. Among other problems, conversion of land use and short of water prevail. This situation is like that of Lambayong RIS.

3. MARBEL-BANGA RIS

The system has dilapidated service roads and structures. Hence, along with other problems on desilting, the structures like canals have to be repaired and lined concretely to get the exact amount of water conveyance.

There was another topic, regarding on the raising the height of the Protection Dike due to siltation. A lengthy discussion and illustration were held. Most likely increasing the head will go with raising the height of the dike at the upstream portion. The type of soil should also be considered. Sandy soil might affect the dam. Engr. Briones suggested to check stability of the dam and check the dam's original design. Inasmuch as sandy soil endangers the dam, he proposed exploration of foundation on both sides of the dam. It is recommended also to check the capability of the contractor to undertake the work.

4. MARBEL 1 RIS

The presentation ran down works items for rehab which include Protection of canals and structures due to scouring. The main canals are earth canals. As such they desired them to be concrete-lined. Likewise, the system has earth lateral canals and that they proposed that these laterals be concretely lines. They also presented the roads to be repaired.

5. MARBEL 2

This system is just the other side of Marbel 1 RIS. Although they have been garnering a high cropping intensity, the irrigation facilities are on the verge of falling apart and are "on its last legs". All irrigation facilities are defective already: Steel gate is faulty and sluice way screw is malfunctioning that they have hard time to divert during dry season. Rehabilitation to restore Marbel 2 is needed.

6. SILUAY RIS

Proposed restoration focused on the repair of flooring of the sluice way and the repair of the steel gate of Siluay and Buayan RIS.

7. CABADBARAN RIS

Serving the areas in Taguibo and Cabadbaran, potential area is 3,500 hectares and a Firmed up service area of 2,500 hectares composed of 14 barangays with 7 IAs.

Among others, they requested repairs of dam damages caused by the flash flooding that also destructed left embankment at the downstream of the diversion structure and right downstream; repair of the downstream apron. All defective items were presented and shown on slides although, the system was already investigated by Engr. Briones beforehand. Engr. Tabije on the indicative POW presented and remarked that P 74M for facilities is too much especially that it only involves lining of canals. He also commented that P 13M for the feasibility study is big as well as the Agro-Economic Survey which the IMO pegged for P 13M. He advised them to review the POW and be also checked the documents needed.

Engr Briones explained that the project cost will include the construction of supplemental canal from Cabadbaran main canal to headgate of lateral of Taguibo Service area. Originally, Taguibo Area cannot sustain the irrigation water requirement, much more on the constructed extraction point of Water District of Butuan City located upstream of Taguibo Diversion Dam. The water rights has to be discussed with the MLGU, Water District, and IA, so that everyone will be aware on the water shortage of irrigation supply.

8. SIMULAO RIS

For Simulao RIS, presented were its scheme of development for the proposed rehabilitation which focused on the defective canals that should be rehabilitated and structures to be repaired. Following the slides that were shown, were the presentation of the equivalent POW and other requirements.

As discussed by Engr Briones based on the fieldworks, problems are as follows:

- a) Diversion Dam Upstream are used as Log Pond, making logs float across the weir from upstream to downstream, which threaten to break the concrete structure in time.
- b) Wallowing of Carabao/Water Buffalo in the canal,
- c) Domestic waste and rubbish thrown in the canal,
- d) Encroachment of houses and structures along the ROW of Canal
- e) Leak at inclined section of the Simuilao Siphon,
- f) Deteriorated irrigation canal,
- g) Inefficient drainage system,

- h) Flooding at areas adjacent to Lucad Creek about 1,000 hectares
- i) Stolen and non-functioning of steel gates
- j) Unauthorized extraction of irrigation water by boring holes in canal

The field visits were conducted by two Teams, A & B. Results were presented by Engr. Tabije covering Regions XI & XII and Engr. Briones leading the team for Regions X and XIII.

Both laid their recommendations, reminders and wrap up the whole sessions which ended at 9:30 in the evening of May 29, 2009.

Recorded and Prepared by:

BERNADETTE G. ROBIN
Senior Irrig. Dev. Officer
NIA, Region XI

Concurred by:

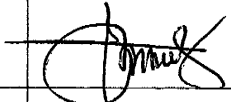
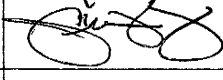
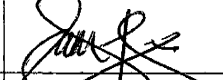





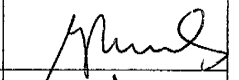
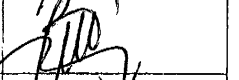




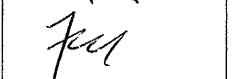
MR. ISMAEL TABIJE
Irrigation Engineer
JICA SLRIF Survey Team

MR. ROEL BRIONES
Irrigation Engineer
JICA SLRIF Survey Team

MR. ITSUO KIHARA
Irrigation Expert
JICA SLRIF Survey Team

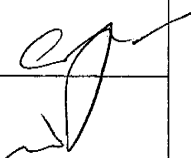
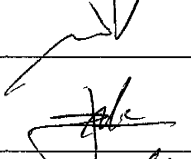

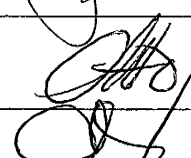
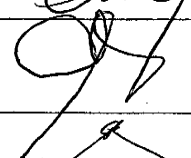
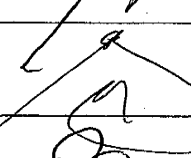
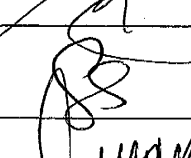
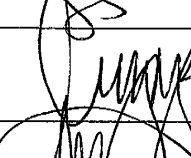
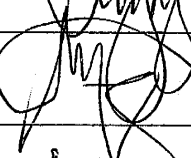
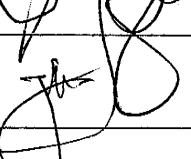
List of Attendees for Workshop / Meeting

Title: Exit Conference on Sector Loan for Rehab of Irrig. Facilities Regions X, XI, XII, XIV
 Date: May 29, 2019 Time: _____
 Place: Waterfront Insular Hotel - Davao City

	Name	Organization/Office	Signature
1	WILSON S. NADARITA	NIA - IMB - ADCS	
2	MARIO S. LOMBOT	NIA - SIMULAO RIS	
3	SUSAN GALIBA	NIA - SIMULAO RIS	
4	MEVINA HORSEKADA	NIA - REGION 13	
5	Edgardo T. Diaculan	NIA - Region XI	
6	ROLANDO R. ZAMORA	NIA - REGION XI	
7	Felix M. Razo, CEDVI	NIA - Reg. XI	
8	NENISA M. NATALLANO	NIA - Reg. XII "NER"	
9	BERNARDITA O. TRONDTROND	NIA - REG 12	
10	ROSE CUSMANCE	JICA SURVEY	
11	Jitsuo Kihara	JICA - survey	
12	ALBERTO A DIMSON	NIA - R13	
13	MA-LOURDES B. DANGSA	NIA - CABOTES	
14	ARIEL BATA	NIA - C.O. - Counterpart NIA - JICA STUDY TEAM	
15	FERNANDO ANONIA	JICA - STUDY TEAM	

List of Attendees for Workshop / Meeting

Title: Exit Conference on Sector Loan for Rehab of Irrig. Facilities Regs X, XI, XII, XIII
 Date: May 29, 199 Time: _____
 Place: Waterfront Inman Hotel - Davao City

	Name	Organization/Office	Signature
1	A. FORTES	NIA - 12	
2	EDUARDO COXIDO	NIA - 12	
3	J.A. SERRAS	NIA - 13	
4	E. DOMERIO	NIA - 13	
5	ALFREDO ESTRELLA	NIA - REG. XI	
6	N. Dapquilla	NIA REG XII	
7	JFB. SEMARUDE	NIA - 10	
8	MARIO OREZANO	NIA - PRO BURE.	
9	ALFONSO MANANAN	NIA - MANRIS BURE	
10	HERMINIILDO K. PETER	NIA - XI	
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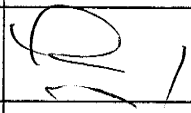

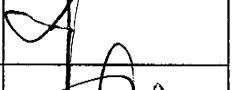
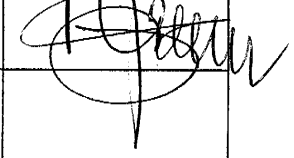
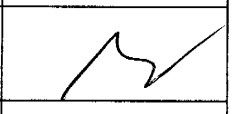
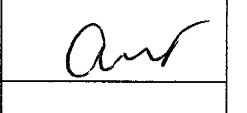
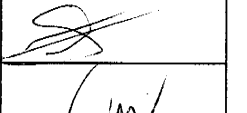
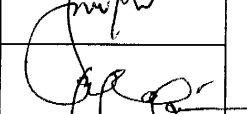
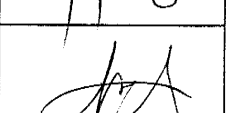

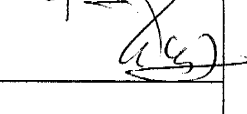

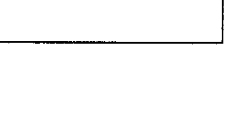
JICA Preparatory Survey for Sector Loan on Rehabilitation of Irrigation Facilities

List of Attendees for Workshop / Meeting

Title: Exit Conference on Sector Loan for Rehab of Irri. Facilities for Reg. 10, 11, 12 & 13

Date: May 29, 2009 Time: _____

Place: Waterfront Insular Hotel - Davao City

	Name	Organization/Office	Signature
1	JULIUS MAQUILING	NIA Reg. 10	
2	LUPESTI TOLENTINO	NIA 12	
3	ALDO MORALES	NIA 8/1/10	
4	JIMMY L. APOSTOL	BUMAMUN - PU	
5	Demetrio W. Banta	NIA - Muleto PLS Matarang Bello	
6	EBUDANCO O-RAMOS	NIA - MARIKES - IS	
7	Orlando A. Tibang	NIA - MARIKES	
8	Cesar Cepeda	NIA - Reg. 11	
9	Marihel R. Blom	Support Staff	
10	Bernadette Palaci	Support Staff	
11	ASSOC. AD	NIA - REG 11	
12	XXXXXXXXXXXXXXXX	MA - REG XI MARIKES	
13	Ismael Tabije	JICA - SLP-IF	
14			
15			

Focus Group Discussion: Regions XI, XII, and XIII (May 20-21, 2009)

To put the participants in a proper perspective, an explanation of the background of the proposed project was first presented. The facilitator steered the discussion by posing a generic issue on why there is a vicious cycle of rehabilitating irrigation facilities. Each participant was made to write his/her opinion on an improvised card and then pasted on the bulletin board. The observations yielded concerns on institutions and physical. Only the institutional issues were tackled and these were grouped according to IA and LGU concerns. The FGD took off from these concerns.

Participants from selected IAs included the chairman, treasurer and two members. One IA was selected from the concerned Region. The LGUs were mostly the municipal level composed of the municipal agricultural officer, infrastructure specialist, and municipal planning officer of selected LGUs, one each from the concerned Regions.

The complete list of attendance is attached as Annex 1.

Local Government Units (LGUs)

1. LGUs can commit its resources to the project as long as there is a clear delineation of responsibilities. While NIS is outside of the responsibility of the LGUs, it was claimed that IA members normally request assistance from the concerned LGU units, e.g. repair of damaged canal.
2. LGU units at the municipal level have heavy equipment that can be utilized for construction and repair works of minor infrastructure.
3. LGUs are more than willing to actively participate in the project. It is suggested that at project design and detailed engineering, NIA and LGU together with the IAs should sit down to identify specific responsibilities and quantify corresponding resources to be provided by each participant. LGU can access funding to be used as counterpart fund. Under existing foreign-funded projects, the counterpart required from LGUs vis-a-vis infrastructure projects are: irrigation, 30%; and farm-to-market road, 20%. LGUs also take responsibility in implementing these projects.
4. Request made by IA members for payment of labor cost for minor repairs is responded positively by LGUs which put a premium on farmers' need.
5. On agricultural extension some Municipal LGUs assigned one technician per baranggay. Others that do not have the resources have less than this kind of allocation.
6. Funding for agricultural support comes largely from national appropriations through the DA. Examples are provision of rice seed subsidy (50% of the cost), and solar and flat bed dryer to IAs.
7. Mobility of agricultural extension officers is constrained by limited travel funds. Some LGUs, however, have resolved this issue by allowing government vehicles as their mode of transport.
8. Development-oriented LGUs have provided demo farms per baranggay, and this serves as the venue for dissemination of new technologies.

Irrigators Associations (IAs)

1. IAs are aware of the IMT program. They are willing to accept most management functions of the system provided the facility is in excellent condition. The implication is that the system must first be rehabilitated and restored to its original design.
2. IAs insist that they must be part of the planning, design and construction works to ensure that the irrigation system structure and configuration is planned according to their needs.
3. Care and maintenance of the irrigation facility can be enhanced by requiring IA to put up its equity. For instance, a portion of the labor cost for construction where IA members will be employed can be set aside as seed fund for maintenance.
4. Most IAs have federated at the system's level. The federation, accordingly, is effective in terms of enforcing policies on O&M. IAs that do not comply are sanctioned. For instance, they get the least priority in water allocation and distribution.
5. Livelihood besides rice production is constrained by low financial resources of the IAs. Although a few has gone into lending, the main source of fund is Type I and II contracts. JSM is given to strong IAs where 40% of ISF collection goes to IA, provided the first 60% is remitted to NIA. However, because of the "one basket policy", where collections are remitted first to the central office before they can be released, the time incurred in the remittance of the 40% to the IA is quite delayed. This prevents the IAs to make a quick turnaround of their cash for investment into productive ventures. Furthermore, the policy discourages IAs to exert effort to collect as quick as possible the first 60% ISF collections.


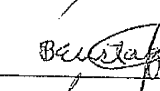
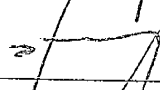
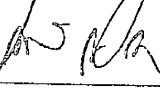
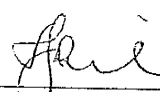
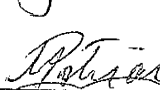
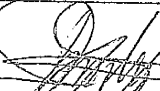
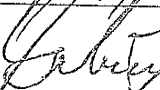
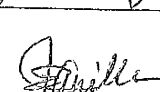
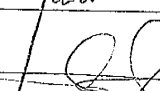
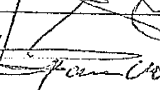
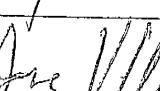
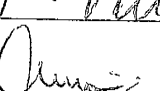
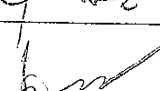

JICA Preparatory Survey for Sector Loan on Rehabilitation of Irrigation Facilities

List of Attendees for Workshop / Meeting

Title: NIA JICA SLRIP POCUS GROUP DISCUSSION FOR IAs & LGUs
of Regions XI, XII, XIII

Date: MAY 20-21, 2009 Time: _____

Place: WASANTHORN INSULAR HOTEL, DAVAO CITY

	Name	Organization/Office	Signature
1	ROMEO P. BACELONIA	NIA - SRIS TRENTO, AGUSAN	
2	Beatissima Bustagio	NIA - SRIS Trento, Agusan del Sur	
3	Elizabeth S. Perez	LGU - Koronadal	
4	Mr. Encito B. Magad	LGU - Koronadal City	
5	Paresh Felix	MOFIA	
6	Mariya G. Bhanuvaran	MOFIA	
7	JOETEL SOMODIA	LGU - KORONADAL	
8	RAMUL S. GALIA	LGU - KORONADAL	
9	ENRICO A. JAMILLO	MOFIA KAROL BAGUA RIS	
10	DELMA TALDE	LGU - KORONADAL	
11	LEONARDO FORTIBAN	MOFIA	
12	JOSE VILLAVICENCIO	MOFIA	
13	JOSE HENRY D. AGUIRRE	SP - KORONADAL	
14	BENITO C. CALDERON	LGU - Koronadal	
15	MARCO R. AMAD	NIA - SRIS TRENTO AGUSAN	

JICA Preparatory Survey for Sector Loan on Rehabilitation of Irrigation Facilities

List of Attendees for Workshop / Meeting

Title: NIA-JICA & RIF FOCUS GROUP DISCUSSION FOR IIRP 2
LGUs of Regions XI, XII, XIII
 Date: May 20-21, 2009 Time: _____
 Place: WATER FRONT INSULAR HOTEL, DAVAO CITY

	Name	Organization/Office	Signature
1	Gerardo Galangata	Redeem IA	
2	FURDENZA A. BAWA	LAW Matambon	
3	CESSA PEUK	PEUK - DAIS	
4	Evelynne G Ting	NIA - RIB	
5	Gene Clave Sanday	INDIA - DAVAO SUR	
6	Reynaldo Cua	IA - Pres. MAL-RIS	
7	REORITO JATIO	IA MEMBER	
8	ADELITO LANTI	IA VICE MAL-RIS	
9	NORA C. MANTA	IA TREASURER	
10	Vicente A. Fernandez	MAYOR MATAMBON	
11	M. JATRA	MATAMBON DYO SUR	
12	NIA DYO SUR	ARLEDO C. JARAN	
13	RUEL C. USKON	MPDC / LGU - Matambon	
14	Wahij & Amayn Marhel - Brgy. Nibay		
15	DON G BUREDES JR	MPDC / LGU - TRENDO	

Region X

JICA Preparatory Survey for Sector Loan on Rehabilitation of Irrigation Facilities

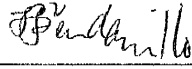

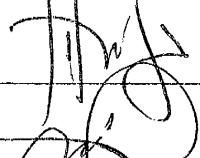


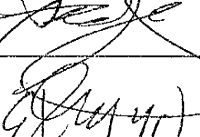
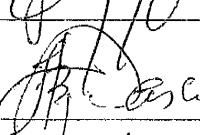
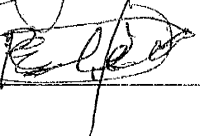
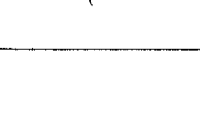
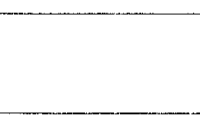
List of Attendants for Workshop / Meeting

Title: WALUGUI 1A - NIA MEETING
 Date: 5-27-2009 Time: 8AM - 1PM
 Place: NIA PMS, VALENCIA, BUKIDNON

	Name	Organization/Office	Signature
1	ROEL C. BRUNIER	JICA SURVEY TEAM	
2	ARIEL BANTA	NIA-C.O - EDSA, Q.C. JICA STUDY TEAM - COUNTERPART	
3	JIMMY L. APOSTOL	BUKIDNON - PMS	
4	Fernando C. Ponquillo	NIA - PMS	
5	EDRICO L. TICAR SR. TURDIA PMS.		
6	ROMY P. TRABAGAN	MAD-IA PRES	
7	Roberto C. Juan Jr - Laligan - IA		
8	Rodolfo A. Castillo - TURDIA - PRES		
9	CARLOS V. ABRIA SR. AALIA - PRES.		
10	MOSTER P. BALICUA	SINAYAN 1A - PRES.	
11	Bernardino Abalo	Sinaya 1-A Pres	
12	Francisco B. Mutalagan	B.G. 7IA PMS.	
13	Ricarte Diesta	RPW 17 PMS	
14	Benjamin Mapato	UP. AALIA	
15	NIXON MRSN	SINAYAN 1A	

List of Attendants for Workshop / Meeting

Title: PULANGUI IA - NIA MTG
 Date: 5-10-09 Time: 8:00 - 1PM
 Place: NIA PMS OFFICE, VALENCIA, BUENAVISTA

	Name	Organization/Office	Signature
1	PATYNA B. BENPANELLO	PRFIA INC.	
2	NARSING CABAYA	IA Member	
3	NOEL ANTONIO	VIFIA Pres. Umtar	
4	Carito Estribo	NFIA NABAGO TRAS	
5	ROGELIO BALMAD	KNS-IA NORTH MAIN CANAL	
6	EDGARDO HILARIO	MALABI-IA	
7	PAJE, JOVY	TUBURAKI IA	
8	ETIEN DAYYO	L.T-I	
9	Leonardo Pasua	SDKIA pres-	
10	Estanley Rodolfo	KNS-IA	
11			
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JICA Preparatory Survey for Sector Loan on Rehabilitation of Irrigation Facilities

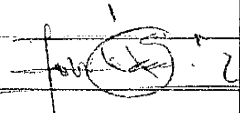
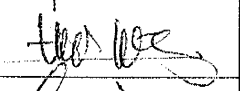
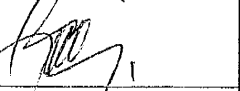

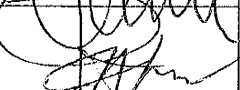
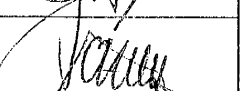
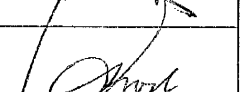



List of Attendants for Workshop / Meeting

Title: RUANGUI IA-NIA - SICA SURVEY MEETING
 Date: 5-28-2009 Time: 8AM - 1PM
 Place: NIA-PRIS OFFICE, VOUENCIO, BUCIDMONE

	Name	Organization/Office	Signature
1	RODELIO HERNANDEZ	SIDAYAWAN I-A	[Signature]
2	RODELIO A. TIANSIUG	Anfi Lopy Farms Irrigation Association ALFIA	[Signature]
3	RAUL G. TUNOY	ICATAGAYAN IA	[Signature]
4	HENRY TRINIDAD	MAD - I.A	[Signature]
5	BARTOCES JOSEPH	MXD - IX	[Signature]
6	FELIX T. TRAFAPA	PEIA	[Signature]
7	Jose A. Calipusan	NIA	[Signature]
8	Willy Paterson	Pintira	[Signature]
9	Rosalina A. Porton	NIA-PRIS	[Signature]
10	ANACLETO G. LOPEZ	NIA - PRIS	[Signature]
11	ESTELITO CAGOL	IA - Press	[Signature]
12	CAMILO VILLAMORA	IA Press	[Signature]
13	FELIX GARCIA	NIA - PRIS	[Signature]
14	Ung Arulta	UPIA Pres	[Signature]
15	NELSON B. FLORES	MOKAPINA IA Pres	[Signature]

List of Attendants for Workshop / Meeting

Title: MEETING IA-NIA-JICA SURVEY
 Date: 25 MAY 2009 Time: 11AM - 1PM
 Place: MULETA NIS, BUKIDNON

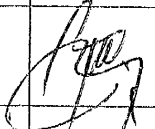
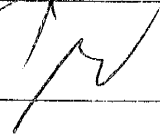

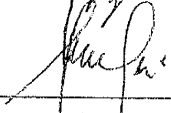
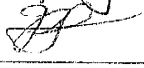
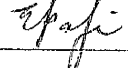



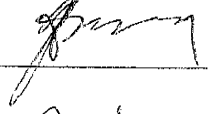
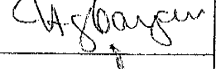
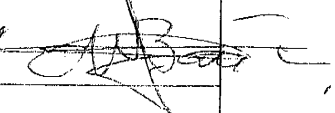
	Name	Organization/Office	Signature
1	Demetrio W. Benitez	Muleta RIS-NIA-Masamag Bukidnon	
2	Aquinaldo Y. Cruz	- do -	
3	ROEL C. BICONES	JICA SURVEY TEAM	
4	JIMMY L. APOSTOL	BWR PVO	
5	MAURICIO C. CORRAL	MURIS/RRRIS	
6	Ramon G. Cueva	MURIS/RRRIS	
7	MANUEL P. DOVAL	Federatam President	
8	ARIEL BANT	JICA - STUDY TEAM Socio Counterpart	
9	RAMON T ANDO	MURIS/RRRIS	
10	JODI GUERRA	MURIS	
11			
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List of Attendants for Workshop / Meeting

Title: NIA MANUPALI - SURVEY TEAM - IA

Date: _____ Time : _____

Place: VALENZUELA CITY, BULACANEHO

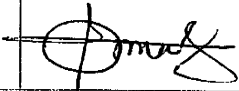


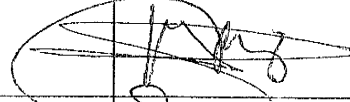
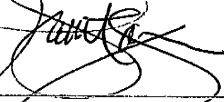
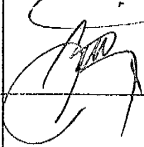
	Name	Organization/Office	Signature
1	ROEL C. BRIONES	JICA SURVEY TEAM	
2	GAUDENCIO B. RAMOS	IS - NIA - MANUPIS	
3	MARIANO C. CAPIN	MAICOL IA	
4	Ricardo C. Pohnio	ABC IA	
5	Ricardo Salvador	HIHAPO IA	
6	Emma Paginawan	MABASADA	
7	Aurora J. Page	Colonia	
8	DELLIN S. TACERA	NIA - MANUPIS, S. WPTT	
9	Alejandro C. Yandug	NIS-PID - 100	
10	Francisco Alvarado	BASUDA-IA	
11	Donalda B. Agbayani	MAICOL IA	
12	ARIEL M. BANTA	NIA, CC, EDGG DEPT. NIA-JICA Study Team Laramte	
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List of Attendants for Workshop / Meeting

Title: meeting NIA - JICA SURIF

Date: 20msy 2009 Time: 11AM - 12NN






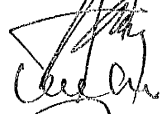
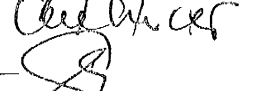
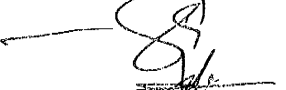
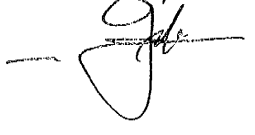
Place: SIMULAO RIS, TRENTO, AEGSANE SUR

	Name	Organization/Office	Signature
1	WILSON S. NAZARETA	NIA-INDO - ROSARIO ADS	
2	MARIO S. LOMBOY	NIA - SIMULAO RIS	
3	Delia B. Montecinos	NIA - SIMULAO RIS	
4	ROSELYN F. LARSON	NIA - SIMULAO RIS	
5	SUSAN D. LATUDA	NIA - SIMULAO RIS	
6	ROSA C. BRIONES	JICA SURIF SURVEY TEAM	
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ATTENDANCE

CABAO BARAN NIS MEETING

19 MAY 2009

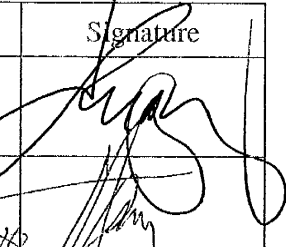
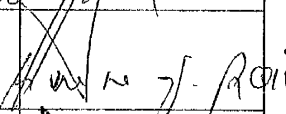
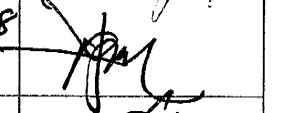
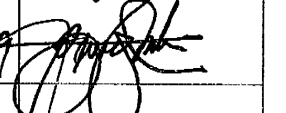
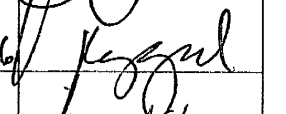
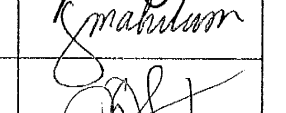

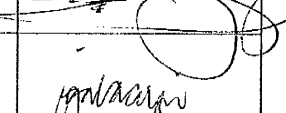


NAME	DESIGNATION	SIGNATURE
1. ROEL C. BRIONES	JICA SURVEY TEAM	
2. ITSUO KIHARA	. DITto.	
3. ALBERTO B. DIMSON	DR. HIGH RES-SUB IMP	
4. FERDINAND D. AMON	ENGG & OPERM SECTION CHIEF ASD-IMP	
5. ARIEL M. BAIL	PPD, ENK's DEPT. NIA-C.O.	
6. NARDARO J. AZORES	AD-ADVSD IMP	
Wida E. Delmida	NIA-ADU	
8. JOSEPH SEMBLANTE	(VISITOR NUMBER)	
9. JOEL A. SOTAS	DRIVER SERVICES	
10		

List of Attendants for Workshop / Meeting

Title: MEETING NIA - JICA SURIF

Date: 19 May 2009 Time: 10AM - 12NN

Place: CABARANAN - TAGUIBATO NIS, CABARANAN, AROSAN NORTH

	Name	Organization/Office	Signature
1	ROQUELLO S. ABUZU	NIA - ADM - IMO	
2	NAPOLEON S. AZARES	NIA - ADM - IMO 09075502810	
3	EMMA D. RANA	NIA - ADM - IMO	
4	DIOSDADO C. VILLAFRUTA	NIA - CABRIS - IMO 09267826138	
5	BERNARDO T. MUTIA	NIA - CABRIS - IMO 09267826139	
6	PAZ S. DOGOLDOGOL	NIA - CABRIS - 09207752866	
7	Diosel V. Mahilum	NIA - CABRIS -	
8	Vicente T. Makinon	NIA CABRIS	
9	WILFREDO H. DIZON	NIA LARRIS	
10	EMILDA G. PARACAYAN	NIA - ADM - IMO	
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HIGHLIGHTS AND ISSUES ON DISCUSSIONS OF THE MEETING WITH SLRIF JICA SURVEY TEAM, MAY 23, 2009 AT WATERFRONT-INSULAR HOTEL, DAVAO CITY

- Introduction of participants in the meeting conducted by Engr Fernando Roquillio, Irrigation Superintendent of Pulangui River Irrigation System,
- Shortage of Water, IA officials at the downstream part of the service area are complaining on the shortage of water, some cannot cultivate two (2) rice crops annually.
- Wasted Irrigation Water, it can be observed that most of the farmers upstream are not properly controlling water to optimize usage of irrigation water as paddy field are always flooded with water even not required,
- Rainfall Run-off entering the Irrigation Canal, there are plenty of run-off gully that are filled with rainwater entering the canal accompanied with silts without drainage inlet structures,
- Drainage Right of Way, there are gullies and waterways that were block by newly constructed houses as a result would inundate the adjacent areas.
- Wallowing of Water Buffalo/Carabao, these animals are destroying canals particularly side slope embankment on earth canal,
- Quarrying of Sand and Gravel downs stream of the Diversion Dam, which threaten canal embankment of Lateral C. Few more heavy rains, this embankment will collapse. Extraction of sand and gravels resulted to exposure of top slab of Siphon.
- Watershed problems, denuded forest, during heavy rain fall, color of water in the river looks brown, flush flood is frequent in the area,
- Predominant illegal extraction of irrigation water along the canal by boring holes. This will be legalized by providing turnout structures and gates. Make them member of the IA and agreement to pay ISF.
- Domestic wastes and sewer drains are lead to irrigation canals,
- Stolen steel gates, remarkable stealing of gates from turnouts and head gates
- Uncontrolled water distributions which causes water overflow over the canals and started to scour earth embankment
- Land conversion, due to insufficient water supply, farmers-landowner shifted cultivations from rice to corn or other crops, other convert lands to residential

- IAs query on the possibility of provision of Post Harvest Facilities (PHF), as it is very difficult for them to dry rice grains due to lack of PHF facilities.
- Farmers complain on the roads connection to major roads or barangay, in reply, service roads can be connected to existing barangay roads as access roads.

JICA Preparatory Survey for Sector Loan on Rehabilitation of Irrigation Facilities

List of Attendees for Workshop / Meeting

Title: NIA - JICA Entry Workshop on SLRIF for Region X
 Date: May 23, 2009 Time: _____
 Place: Waterfront Hotel, Lananag, Davao City

	Name	Organization/Office	Signature
1	Editha B. Abdon	NIA, Region 10	<i>E. Abdon</i>
2	Agnaldo Y. Cruz	NIA - Muleta / Roxas kaga RIS	<i>Agnaldo Y. Cruz</i>
3	Demetrio A. Bouke	NIA - Muleta / Roxas kaga RIS	<i>Demetrio A. Bouke</i>
4	Fernando C. Bosquillo	NIA - Palangui RIS	<i>Fernando C. Bosquillo</i>
5	GAUDENCIO O. RAMOS	IS - MANUPALI RIS	<i>G. Ramos</i>
6	JIMMY L. APSTOL	BUKIDNON PIO	<i>J. Apstol</i>
7	ELSA R. JYROLAN	BUKIDNON P 10	<i>E. Jyrolan</i>
8	ARIE M. BANTAN	NIA C/O / JICA Team Counter part	<i>A. Bantan</i>
9	ROEL C. BRIONES	JICA TEAM	<i>R. Briones</i>
10	FERNANDO ANDON	JICA Team	<i>F. Andon</i>
11	Bernadette Robin	NIA, Region XI	<i>B. Robin</i>
12	Marina Chazeme	NIA - PIO Valencia	<i>M. Chazeme</i>
13	Pichanet Tigada	XIIA - PRIS Val:	<i>P. Tigada</i>
14	XUYNO MANARA	NIA - MATRUS	<i>X. Manara</i>
15	ROSALINA P. DELA CRUZ	NIA IDD - C.O	<i>R. Dela Cruz</i>

16. Lemael D. Tabije JICA Team

17. Maribel Blanes NIA Ry. XI

Maribel Blanes

Annex C

Institutional Data and Study

Final Report

Annex C

Institutional Data and Study

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INSTITUTIONAL DEVELOPMENT

1. General

This chapter presents the current situation of NIA's field offices (RIO and IMO) related with the 32 NISs short-listed for SLRIF. The information used was obtained through site visits by the JICA survey team as well as analysis of several databases in NIA central office. Based on the observations, programs to strengthen the concerned NIA's field offices and IAs are proposed to be incorporated into SLRIF as key soft components to achieve the project objectives.

2. Present Situation and Problem Findings

2.1 Current Situation of NIA's Field Offices: RIO and IMO

The short-listed 32 National Irrigation Systems (NISs) as candidate sub-projects of SLRIF are administratively covered by 16 NIA Irrigation Management Offices (IMOs) in 8 NIA Regional Irrigation Office (RIOs). All the RIOs and the IMOs covering the 32 NISs, except for the IMOs in Regions 3 and 10, are in place. Appointment and recruitment of staff are temporarily deferred in IMOs of Regions 3 and 10, upon requests to NIA central office by the concerned regional irrigation managers.

(1) Budgeting

Questionnaires survey on budgeting and collection of ISF was carried out during workshops at the concerned RIOs which included the following items.

- (i) Preparation of Budget Program
- (ii) Preparation of ISF Collection Program
- (iii) Basis for Estimating Budget and ISF Collection
- (iv) Monitoring & Assessment Mechanism on Expenses and Collection of ISF
- (v) Reasons for big difference between the approved budget and actual expenses
- (vi) Reasons for big difference between the scheduled income and actual income

Table 7-1 shows summary of the responses in each region. Responses on all the items, except items (i) and item (ii) differ by region:

- (a) Preparation of budget program
 - Each division chief, RIO and chief of O&M section and accounting section, IMO prepares the budget program.
- (b) Preparation of ISF collection program;
 - Irrigation superintendent, O&M manager of IMO prepare irrigation service fee (ISF) collection program. In some cases, IA officers are involved depending on the type of O&M contract.
- (c) Basis for estimating budget and ISF collection
 - Budget is based on personnel cost (actual filled-up position) and maintenance, operation and other expenses (MOOE) of previous year.
 - ISF is based on program area to be irrigated and planted or benefited area using the prevailing government support price for palay by the National Food Authority (NFA)
- (d) Monitoring and assessment mechanism on expenses and collection of ISF;

- Verification of collection and deposit reports with deposit slips and receipts.
 - Accounts analyst check semi-monthly, periodic and surprise audit of collections; regular audit and cash examination by Commission on Audit (COA).
 - No function of monitoring mechanism and assessment in some IMOs.
 - Weekly audit of collectors by the Internal Control and Management Unit (ICMU), monthly audit of collectors and cashiers by auditor in some IMOs.
- (e) Reasons for big difference between the approved budget and actual expenses;
- No regular monitoring and assessment of expenses.
 - Compensation and other benefits of retired employees.
 - Increase in employees wages/salaries, hiring of additional staff, fuel cost and electric power consumption cost.
- (f) Reasons for big difference between the scheduled income and actual income;
- Lack of manpower for ISF collection.
 - Decrease in actual benefited area.
 - Attitude of farmers.
 - Due to sale of idle properties and collection of advance amortization.
 - Due to crop infestation and man-made calamities.

The above responses revealed the following:

- Basis for estimation varies from one region to another;
- Different staff irrespective of their skills prepares the budget;
- Approved budget is always overstated relative to what the RIO can actually spend;
- Scheduled income is based on optimistic assumptions regardless of what income can actually be collected; and
- High proportion of Personnel Services (PS) cost in spite of low rate of ISF collection. This was observed in Regions 1, 6, and 13 which incurred deficit budgets.

In view of the above findings, there is lack of serious evaluation on budget prepared or possibility on a perceived problem of arbitrariness in preparation of the budget is identified, despite the presence of standard guidelines issued by the CO.

The budget plan is mainly influenced by personnel service (PS) cost. The MOOE is not closely examined based on previous year's annual O&M implementation plan. The base conditions for ISF collection plan are not uniform. Program area, irrigated area, and benefited area are interchangeably used.

Responses on monitoring and assessment of progress on budget/expenses and ISF collection are varied. Standard monitoring and assessment mechanism required by NIA CO to be implemented by each RIO and IMO is not properly understood. Financial prudence can hardly be achieved under this circumstance.

(2) Progress on IDO Staffing Pattern under IMT as of May 2009

The IDOs based at the RIO and IMO, being the direct link to the FIA/IAs, are one of the most important personnel in the implementation institutionalization of IMT.

The IDOs comprised the Senior Irrigation Development Officers (SIDOs), the Senior Water Resource Facilities Technicians (SWRFTs), the Water Resource Facilities Technicians (WRFTs), the Water Resources Facilities Tenders (WRFTenders) and the Water Resources Facilities Operators (WRFOs).

Under the IMT, the SWRFTs will be the IDOs and their duties and responsibilities include:

- (a) Supervision of proper distribution of irrigation water;
- (b) Supervision of cleaning and clearing works of canals, embankments, and other irrigation structures;
- (c) Assistance to the IAs in investigation of complaints from water users and other irrigation related issues;
- (d) Compilation of records on planting, harvest and crop damages in service areas;
- (e) Facilitation of distribution of bills and ISF collection;
- (f) Coordination with IA, O&M personnel/technical staff and line agencies to facilitate farmers participation in all phases of irrigation development; and
- (g) Supervision of the WRFT and monitor and evaluate IA performance and other reports to IMT/JSM implementation.

The SWRFTs constitute the direct personnel to implement the institutional preparations for the FIA/IA under the IMT program.

The status of the staffing pattern, especially the Institutional Development Officers (IDOs) in the short-listed NIS areas is given in Table 7-2.

The appointment and filling-up of these positions is in progress. In the CO, 11 out of the 17 approved positions are filled up. In the RIOS, the processing of appointment is much slower, and in the case of Region 1, about 25% of the approved positions are filled up, as of May 2009. In the IMOs, the progress is still being confirmed.

In the Rationalization Plan of NIA, the staff requirement of the SWRFTs at the IMO/NIS was estimated at one (1) SWRFT per 3-4 IAs or 1,500 ha, and the number of positions varies according to the size of the NIS and locations of the NISs.

Considering mitigation of excessive workload of the SWRFT and ensuring secure and better delivery of service to FIAs/IAs, it is recommended to modify standard on staffing requirement to one (1) SWRFT per 3-4 IAs or 1,000 ha. In this case, additional 29 positions are needed to meet the required number of SWRFT as shown below.

Requirement of SWRFT at IMO and RIO by NIS Short-listed

Region	Central Office, Regional Irrigation Office & Irrigation Management Office (IMO)	Progress of Filled-up of Personnel as of May						Balance of SWRFT & Evaluation			
		Approved Position				** SWRFT to be requested		IMO level		RIO level	
		CO & RIO		IMO		IMO level	RIO Level	Balance	Evaluation	Balance	Evaluation
		Original	Assistant	Original	Assistant						
-	Central Office	17									
Region 1	Region 1 Office	4	2				26	-7		-5	HP*
	Ilocos Norte IMO			25	10	12		-2	HP*		
	Ilocos Sur IMO			5	0						
	La Union IMO			6	3	4		-1	HP*		
	Pangasinan IMO			5	3	5		-2	HP*		
Region 3	Region 3 Office	8	3				5	-2		1	LP*
	Pampanga - Bataan IMO			5	3	5		-2	HP*		
Region 4	Region 4 Office	5	3				11	0		3	LP*
	Laguna-Rizal IMO			9	3	3		0	HP*		
	Quezon-Marinduque IMO			18	4	3		1	HP*		
	Palawan IMO			9	4	5		-1	HP*		
Region 6	Region 6 Office	4	2				12	4		6	LP*
	Iloilo-Guimaras IMO			8	6	8		-2	HP*		
	Negros Occidental IMO			4	1	1		0	LP*		
Region 10	Region 10 Office	3	2				16	-6		-4	HP*
	Bukidnon IMO			2	1						
					29	8	12		-4	HP*	
					4	1	2		-1	HP*	
Region 11	Region 11 Office	7	3				5	-1		2	LP*
	Davao del Sur IMO			1	1						
Region 12	Region 12 Office	4	2				27	-11		-9	HP*
	Sultan-Kudarat IMO			25	10	14		-4	HP*		
	South Cotabato-Sarangani IMO				2	1					
					4	3	3		0	LP*	
					4	1	4		-3	HP*	
					4	1	3		-2	HP*	
Region 13	Region 13 Office	2	2				8	-6		-4	HP*
	Agusan Del Sur IMO			3	0						
	Agusan Del Norte - Surigao Del Norte IMO			3	1	4		-3	HP*		
	Agusan Del Norte - Surigao Del Norte IMO			5	1	4		-3	HP*		
	TOTAL	54	19	225	81	110		-29		-10	

Note:

HP*: High potential on decline of dissemination activities at RIO and IMO and field.

LP*: Low potential on decline of dissemination activities at RIO and IMO and field.

** Assumption: One (1) SWRFT per 3 to 4 IAs or 1,000 ha

The additional SWRFTs to be requested are to fill up the shortfall in the most of the IMOs, except the 2 IMOs of Region 4 and 1 IMO of the each Region 6 and Region 12.

But, considering deputizing of the IDOs at the RIO, the 3 regions, namely Regions 1, 10 and 12 have inadequate number of the IDOs. But, the IDOs' function is possible in the other 5 regions. Deputizing these staff to the NISs with inadequate SWRFTs is permissible. But this will be at the expense of foregoing their routine job in the other NISs. Lack of SWRFT personnel will still remain as a problem in providing guidance and assistance to the IAs.

The hiring of additional SWRFTs to satisfy the requirements of the project may not be a critical issue, subject to sufficient budget preparation of NIA. The more important issue is the competence of the SWRFT. The approved educational qualification standard for SWRFT is high school/vocational graduate as the minimum, but, the salary grade of the SWRFT is equivalent to the IDO item which requires a BS degree and Civil Service Eligibility. This kind of issue has been overlooked by management in the preparation of NIA's RATPLAN, and it is important that it be rectified soonest.

(3) O&M Cost

The benchmark amount of O&M cost/ha should be spent for the O&M works of the NIS to prolong the useful economic life was estimated at PhP 3,000/ha at 2007 prices based on the

ADB Study on Cost Recovery in 2000.

The O&M cost of the 32 NISs during the period 2004-2008 is shown in Table 7-4 and summarized below.

O&M Cost by NIS

Current O&M Cost (PhP/ha)	Number of NIS
Above 3,000	2
2,001-3,000	6
1,000-2,000	15
Below 1,000	9
Total	32

The O&M budget of most of the short-listed NISs is under funded, and is widely dispersed. The lowest average O&M cost is PhP119/ha (Madongan Area, Ilocos Norte, Region 1) and the highest is PhP 3,412/ha (Porac-Gumain, Region 3). The overall average is found to be at PhP1,435/ha.

Based from the table above, the observations are as follows:

- (a) only 2 systems met the benchmark amount;
- (b) 6 systems are within the range of PhP2,001 to PhP3,000;
- (c) 15 systems are within the range of PhP1,000 to PhP2,000; and
- (d) 9 systems have less than PhP1,000 O&M cost/ha.

It should be noted that the 2 systems with above PhP3,000 O&M cost/ha are both located in Luzon, although 6 NISs are also below PhP 1,000/ha. Mindanao NISs are mostly within the range of PhP1,000 to PhP2,000/ha. There is no definitive pattern of O&M cost/ha across the regions and the NISs.

The O&M budget with an amount of less than the benchmark amount of PhP3,000/ha is a serious issue that NIA has long recognized. The establishment of the National Irrigation Management Fund (NIMF) and Pabubigayan Trust Fund (PTF) and other sources of fund for O&M is a step in the right direction. However, these sources of fund are not likely the universal remedy for solving this particular problem of low funding for sustainable O&M.

More than the lack of budget there is a fundamental issue that needs to be seriously addressed with respect to the allocation between MOOE and PS.

Further decomposition of the O&M cost is given in Table 7-4. The analysis shows the 5-year pattern of allocation between the cost for PS and MOOE, wherein the allocation is heavily biased in favor of PS over MOOE.

The PS share in percent of the total O&M cost revealed the following:

- (a) 12 systems are within the 90-100%;
- (b) 9 systems are within 80-89%;
- (c) 6 systems are within 70-79%; and
- (d) 5 systems are within 69% and below.

Average share of MOOE to total O&M is calculated at 17%, while PS is about 83%.

The high proportion of PS implies that there is little amount of money left for direct maintenance of the facilities of the irrigation system.

In situations wherein the MOOE is less than 10% of total O&M cost is not appropriate to actual field demand of O&M works in each NIS. The high proportion of PS cost, more than 85%, or in some cases, nearly 100%, is simply impractical from an operational standpoint.

This could be surmised as one of the major reasons for the poor functionality of most NISs. Unless this is fixed soonest, rehabilitation work is bound to be recurrent because deterioration of the facilities is almost always accelerated.

The findings above point to a serious defect of allocating the O&M fund relying mainly on the O&M cost/ha as the standard indicator. The disparity is noticeable between the Porac-Gumain and the Mal NIS. The Porac-Gumain NIS has an average O&M cost of PhP 3,400/ha, 84% of which is PS and 16% is MOOE. On the other hand, the Mal NIS has an average O&M cost of PhP 770/ha, 32% of which is PS and 68% is MOOE.

Through the site inspection on both NISs, it was observed that the facilities of the Mal NIS are in a better condition than those of the Porac-Gumain NIS, although both of them require rehabilitation works. With the on-going rationalization, what should be adjusted is the share of MOOE reflective of the maintenance needs of each NIS.

One measure to achieve this is for NIA to stop its practice (“one basket policy”) of cross subsidizing the salaries of personnel of field offices that cannot generate enough revenues to support their operations. This is the main reason why personnel perks come first before maintenance of the facilities. Likewise, ISF collection performance in the NISs should be looked into very closely and appropriate measures should be formulated to improve collection. Alternatively, an effort to decrease the share of PS cost through a change in sourcing the funding of the PS cost (financial fund) could be explored. For instance, with NIA’s current financial position, a change in its legal structure from corporate to a bureau under the DA maybe explored under the implementation of IMT.

2.2 Current Situation of IAs by NIS

Current issues and problems of NIS and status of FIAs/IAs were identified through the analysis on IAs’ data mentioned in the seasonal report of NIA, such as the IA profile, the O&M performance of IAs and the IA functionality and the focus group discussions held at the IMO or RIO level. The issues and problems concerning FIAs/IAs’ management are summarized below.

(1) IA Profile, O&M Performance and Functionality

The following issues and problems are identified based on the analysis on IAs’ institutional data mentioned in the seasonal report of NIA.

- (i) IA profile
 - Extraordinary scale/size of TSAG and IAs for management of IAs
 - Low progress of membership and high tenancy ratio of IA member in nearly 35 % of NISs
- (ii) O&M performance of IA
 - Low transparency of cropping intensity and irrigated area of other crops for ISF collection in some NIS
- (iii) Functionality of IA
 - Poor quality of IAs’ management and shortfall of qualified management staff of IAs
 - Management of IAs is influenced by NIA’s facilities such as NIA office and its office facilities

The issues on IA profile and functionality are directly influenced by planning and construction of NIS such as canal alignment of the system and activities of Institutional Development Officers (IDO), NIA RIO and IMO. And, the issues of O&M performance is mainly affected by activities of the Irrigation System Management Committee (ISMC), especially monitoring and assessment activities of List of Irrigated and Planted Area (LIPA). Table 7-5 shows summary indexes of IA profile and functionality. The specific indexes are identified as follows.

- (i) Low membership ratio (as low as 40% to 65% in 2008):
7 NISs in 4 Regions 1, 4, 10 & 11;
- (ii) High tenancy ratio (as high as 50 % to 93% in 2008):

6 NISs in 3 Regions 1, 3 & 12 ; and

(iii) Low functionality (as low as 46% to 63% in 2008):

3 NISs in 2 Regions 1 & 10

The above issues/problems are further discussed in the following.

(a) Low membership

Low membership is identified in the 4 NISs of Region 1, one (1) NIS each in Regions 4, 10 & 11. The low membership affects greatly the operations of the IAs, especially in getting the cooperation of farmer-beneficiaries in performing O&M works. The low membership is mainly caused by the voluntary nature of membership in an IA. NIA has long recognized this as a policy issue but until today the policy has not been changed. The NIA encourages IAs enforcing mandatory membership.

(b) High tenancy

The high tenancy is identified in the 3 NISs in Region 1, the one (1) NIS of Region 3 and the 2 NISs of Region 12. High tenancy is also a disincentive to greater collaborative efforts among members. Because land tenure security is fragile among tenants, they do not bother to take an active participation in IA activities particularly in maintenance of facilities. While tenancy is already deemed abolished by virtue of CARP, there are cases of violation and weak enforcement of the law to curtail tenancy. The Department of Agrarian Reform (DAR) should exert more effort to convert these tenants into leaseholders so that they will have ample protection rights similar to full owner.

(c) Low functionality

Low functionality of IAs is identified in 2 NISs of Region 1 and one (1) NIS of Region 10. Low functionality is a convergence of weak organizational and management structure, inadequate capital base or not liquid at all, which is borne out of negligible and weak management of cash resources, and poor O&M caused primarily by improper farming practices and water management. The management skills of most IA members are basically weak to run an organization. With low functionality, the IAs will surely face a lot of difficulties handling O&M under the IMT.

Functionality is an annual assessment being conducted by the Institutional Development Division (IDD). It is a good instrument to assess the managerial and technical capacity of the IAs, and as a basis for providing technical assistance to the IAs. Observation shows, however, that the functionality survey is incomplete for a number of IAs thus making the evaluation sometimes superfluous. Although, the NIA's field offices are required to administer the proper conduct of the assessment, especially in the collection of the data to ensure objective assessment, and to have at least the same set of information for all IAs, lack of funding is the persistent problem to complete the survey for all IAs.

(d) Low level of preparation of the list of irrigation and planted area (LIPA) program, low cropping intensity & low ISF collection efficiency. In Table 7-5 on the summary of index of O&M performance, the following information, especially for the Regional Irrigation Offices (RIOs) 1, and 3 are revealing:

- (i) Low level of programmed, planted and irrigated areas vis-à-vis service area, (as low as 30% to 50% in 2008);
- (ii) Low cropping intensity for the last 5 years (as low as 36 % to 60%); and
- (iii) Low ISF collection efficiency (as low as 13% to 40%).

It was observed that in RIO 6, the programmed, irrigated and planted areas are 100% of the service area; cropping intensity for the last 5 years is relatively high at 72% to 96%, and medium paddy yield. However, ISF collection efficiency is very low, as low as 0 % to 50% for the last 5 years. In the other RIOs, this kind of information is very rare. The trend appears to be reasonable. If the proportion of programmed, planted and irrigated area

vis-à-vis service area is high, the other indicators also follow the same pattern. This is true for 2008 and for the past 5 years.

The data above presents a problem of accuracy and integrity in reporting. For a given year, it is easy to understand if there is a seemingly large deviation from the norm.

For instance, if there was a sudden drop in irrigated area, and during that same period, a typhoon also occurred, then the decrease in irrigated and/or planted area is reasonable. However, if rehabilitation of the damaged structure is done immediately, irrigated area should somehow increase and be reflected in the succeeding years.

It is identified that the lack of transparency in the reporting on important indicators is tolerated especially at the field offices. There is a need for the NIA to strengthen and institute a reliable M&E mechanism with high transparency in order to prevent the erroneous and inaccurate reporting of important indicators such as firmed-up service area (FUSA), irrigated area, benefited area, ISF collection, yield of paddy, etc.

(2) Scale and Size of IAs and TSAGs

Scale or size of the service area where IAs and Turnout Service Group Areas (TSAGs) operate is one measurement index of manageability. In the IMT guidelines, the standard service area is respectively instructed as 20-50 ha for TSAG and the 150-300 ha for IA. These areas are considered the most suitable manageable area in consideration of the resources of the farmers and their organizations.

Table 7-6 shows summary of the existing service area for the TSAG and IA in the short-listed NISs areas. All the TSAG areas, except for 8 NISs cases in Regions 1, 4, 6, 10, 12 and 13 are observed to converge at approximately 20 ha per one TSAG. But, in other cases, the scale or size of the TSAG is divided into 3 groups, such as (i) wider ranges which are virtually out of the standard, i.e. from 5 ha to 387 ha, (ii) out of the standard to smaller area like from 3 ha to 9 ha, and (iii) out of the standard to more large area like 42 ha to 353 ha. The smallest is 3 ha (Dumacaa NIS in Region 4) and the largest is 387 ha (the Muleta NIS in Region 10). The IA area that falls within the standard area 150 ha to 300 ha is observed only in 4 NISs areas in Regions 1, 4 & 12. Others are virtually out of the standard range. The smallest size is 5 ha (Muleta NIS) and the largest is 1,450 ha (Madongan Area NIS).

The above observations point out the arbitrariness in assigning the service area either for a TSAG or IA which is a case of faulty design in organizing. Following the IMT program, most areas of the IAs and TSAGs have to re-establish their respective boundaries, in order to conform with the manageable operations of the NISs.

(3) Growth Stage of NIS corresponding on FIA/IAs Management

Status or growth stage of NIS has been monitored and discussed, using institutional indexes of IAs' seasonal report, such as the IA profile, the O&M performance and functionality. The major indexes for the monitor activities are FUSA, membership, cropping intensity, yield and collection efficiency. The assessment and evaluation on respective indexes was made relevant to the subjects on NIS, but, overall integrated monitoring and evaluation on the status of NIS corresponding on IAs' management of the NIS is not discussed well.

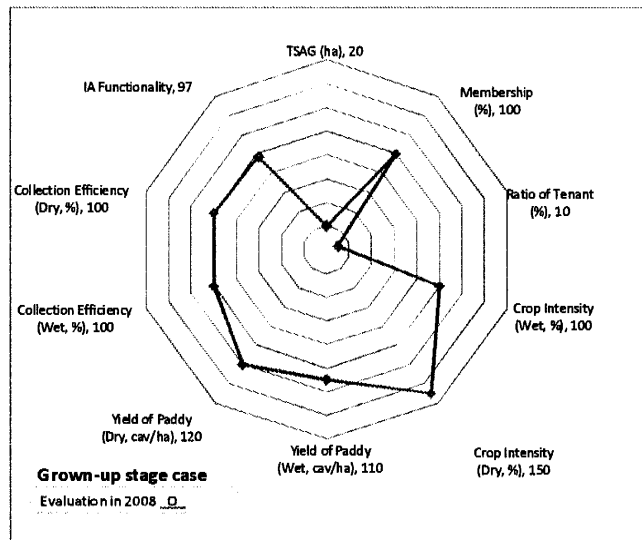
A radar graph analysis is proposed to make classification of status of each NIS based on overall integrated monitoring and evaluation on NIS corresponding on growth of IAs' management capacity and circumstance conditions and to determine its dominance on the status of NIS. Management capacity of the each IA is evaluated by reviewing the functionality, O&M performance combined with the other important indicators. Indexes used for the radar graph are culled from the IA profile (e.g. TSAG area, membership and tenancy), O&M performance (e.g. cropping intensity, yield of paddy and collection efficiency) and IA functionality (rating). Figure below shows the two contrasting growth stages such as matured status and primitive growth status.

(a) Matured status

The indexes of a matured status of NIS corresponding on matured IAs' management capacity will show the following performance.

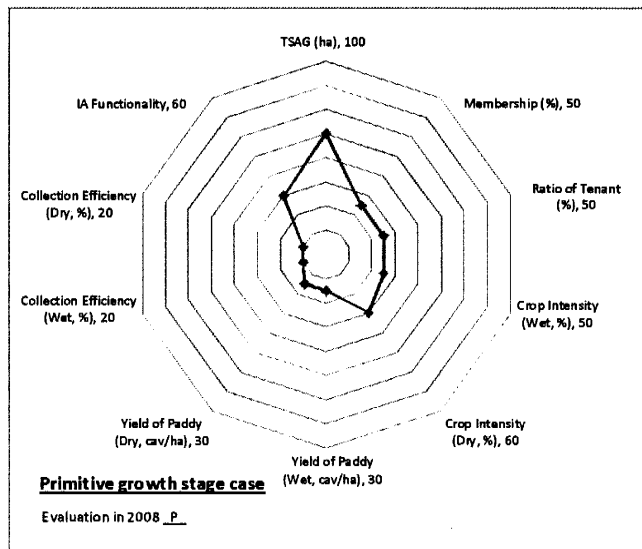
- (i) High functionality of more than 95 rating
- (ii) High ISF collection efficiency of nearly 100%
- (iii) High paddy yield of more than 120cav/ha
- (iv) High cropping intensity of paddy, more than 160% for both crop seasons
- (v) Low ratio of tenancy, target of less than 15%
- (vi) High membership of nearly 100%, and
- (vii) TSAG size of manageable scale, about 20 ha.

Accordingly, the radar graph is characterized to keep a wide semi-circular figure as shown below.



(b) Primitive growth status

In case of the primitive growth status of NIS, the indexes are heavily influenced by the issues in operation of NIS or management of IAs and cannot keep a wide semi-circular figure, and the irregular depression or stick out of the semi-circular figure appears as shown below.



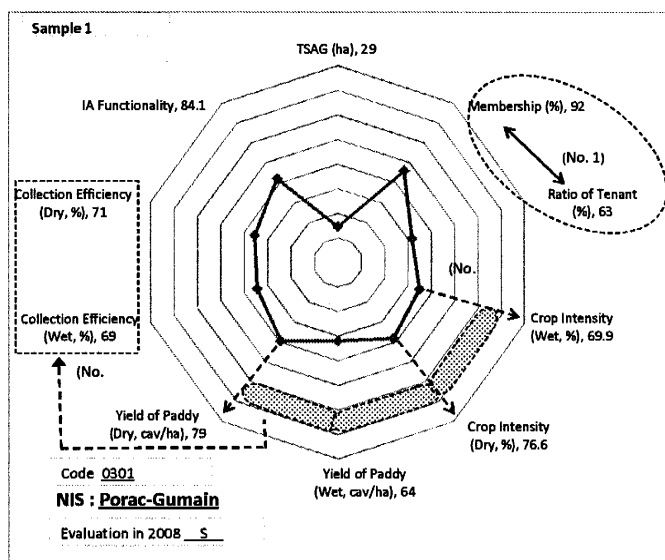
The irregular depression or stick out of the semi-circular figure is one of the key factors for problem analysis of NIS operation at field operation level, and becomes helpful to solve the issues on the NIS operation and/or IAs' management.

The radar graph permits easy identification of weak areas where to focus the essential improvement needed to strengthen the management capacity of the IA.

The following figures show the samples, code 0301, the Porac-Gumain NIS and code 1302, the Simulao NIS of the graphical analysis on the short listed NISs. The issues on NIS operation and social conditions in and around these NIS areas can be interpreted as follows.

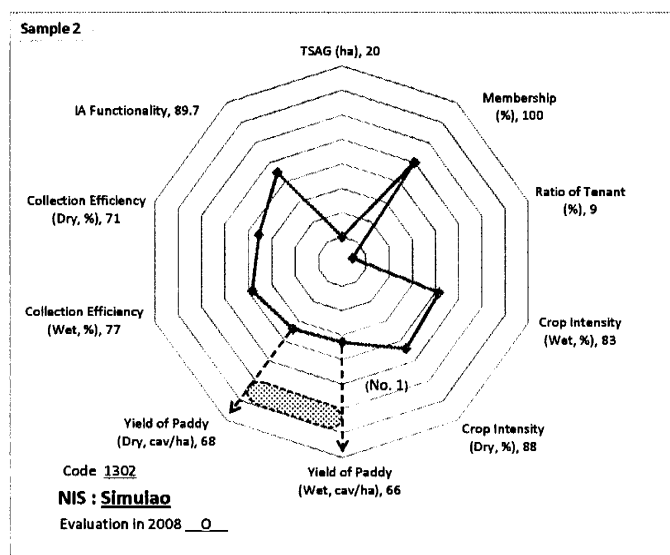
Code 0301, the Porac-Gumain NIS

- Membership (92%) is very high but with high tenancy ratio of 63%, and the distinguished social and institutional status between land owners and tenant are considered in the NIS area. (No.1)
- Cropping intensity and yield of paddy for both the seasons are not much increased due to physical reasons of NIS (canal system or water resource) or shortfall of agriculture input (seed or fertilizer) or shortfall of agriculture extension services. (No.2)
- Collection efficiency for both the seasons is low due to some social reasons or the reasons of low cropping intensity and yield. (No.3)



Code 1302, the Simulao NIS

- Yield of paddy for both the season is low due to shortfall of agriculture input (seed or fertilizer) or shortfall of agriculture extension services. (No.1)



There are 387 IAs in the 32 short-listed NIS. The growth status of each NIS-IAs is classified graphically by this analysis using data in 2008, or 2007 if no available data in 2008. Based on the graphical analysis, growth status of the NIS-IAs is divided into 7 groups such as Type A, Type B, Type C, Type D, Type E, Type F and type G as shown in Table 7-7.

Type A and its variants (A-Ac) can be considered fully grown-up or matured, Type B and its variants (B-Bc) can be considered medium; while Types C to G can be considered primitive growth stage.

The classification revealed the following findings as summarized below:

- (a) 8 NISs have high IA management capacity;
- (b) 12 NISs have medium IA management capacity; and
- (c) 12 NIS have low IA management capacity.

Classification Status of IA-NIS	Number of NIS		Number of IAs	
	location	%	no	%
High (Type A group: A-Ac)	8	24	93	24
Medium (Type B group: B-Bc)	12	38	147	38
Low (Type C-G groups)	12	38	147	38
Total	32	100	387	100

(4) **Local Issues on FIAs/IAs Management**

Local issues raised by the IAs were collected through focus group discussions (FGDs) with FIAs/IAs conducted either at the regional or IMO level. These issues are summarized below, including requests and counter schemes proposed by the IAs. Specific issues were raised as regards physical problems on the NIS, design and supervision construction, maintenance, operation, participation in project implementation, agricultural support services and institutional. With the exception of physical problem and design supervision and construction, all other areas of concerns are critical with respect to sustaining the management capacity of the IAs in particular and the success of the project in general. The details are shown in Annex B.

The issues are summarized below:

- (a) **Maintenance**
 - Untimely and improper maintenance of canals and related structures
 - Heavy maintenance due to illegal disposal of domestic / solid waste in and around canals
 - Poor maintenance of facilities due to lack of financial resources to pay for compensation of labors
- (b) **Operation**
 - Untimely information and poor coordination on implementation of construction / maintenance works
 - No synchronized cropping schedule of NIA and DA due to different DA's cropping system
- (c) **Participation of IA in project implementation**
 - Lack of cooperation among farmer-beneficiaries and IA members due to weak organizational policies
 - Poor response of IA to participation in construction due to inequitable monetary incentives among officers and members
- (d) **Agriculture Support Services**
 - Non-availability of certified paddy seeds due to shortage of seed producers

- Low farm gate price due to no moisture control of paddy (absence or lack drying facilities)
- Shortage of production capital among farmers due to low saving
- (e) Institutional Aspects
 - Poor coordination with LGUs in agriculture extension services
 - Refusal of IA member to pay ISF due to poor functioning of irrigation facilities

The issues and problems on the 3 items such as (i) maintenance, (ii) operation and (iii) participation of IA in project implementation are dominantly influenced by field activities of Irrigation System Management Committee (ISMC) of NIS. The other items such as (iv) agriculture support services and (v) institutional aspect are much affected by activities of regional organizations such as the RAFC and the RDC.

To address squarely these issues, the solutions require not only honing the skills and providing monetary incentives, but more importantly reforming the attitudinal behavior of the IAs. Reforming attitudes is complex and long-term phenomenon requiring suitable work environment and supportive socio-political environment.

For instance, solidarity is a value engendered within the IA as a way of life. However, such value is fragile among IAs and it is not only confined to those IAs living in the farms, but to all of those people within the community. Thus, building community ownership for the individual NIS is a key aspect of institutional improvement, especially at the barangay level.

(5) Proposal on Counter Schemes of FIAs/IAs corresponding on implementation of the SLRIF

FIAs/IAs emphasize their following counter schemes to correspond to the implementation of NIA's rehabilitation work.

- (a) Coordination program for establishment of participation mechanism of FIAs/IAs in plan/design/rehabilitation stages of NIS
- (b) Campaign program on monitoring/control of disposal of domestic waste in irrigation canals
- (c) Coordination program for aggressive participation mechanism of FIAs/IAs to National Agriculture and Fishery Development Council (NAFDC)
- (d) Coordination program for establishment of mechanism on heavy equipment rental with LGUs
- (e) Strengthening program of coordination on O&M problems with LGUs, especially at Barangay level

The counter schemes are reflective of the type of working environment expected by the IAs that are necessary underpinnings for the strengthening and complementation component of the project. Specifically, the requests are in the form support facilities, while the counter schemes are expression of interest for aggressive participation in the changes to be implemented by the project, notably the representation of FIA/IA, Irrigation System Management Committee (ISMC) in the Regional/Provincial Agriculture and Fishery Council (RAFC/PAFC) and Regional Development Council (RDC).

2.3 Current Situation of LGUs

Local issues and counter schemes corresponding to the implementation of the SLRIF were collected in the focus group discussion (FGDs) with the concerned LGUs at the regional and/or IMO level. The issues and counter schemes are summarized in Annex B.

(1) Local Issues of LGUs

The issues were grouped according to staff resources, financial aspect, participation in the project, support to ordinary O&M works, and institutional aspect. The analysis of the issues revealed the following:

- (a) With respect to resources, almost all of the concerned LGUs expressed the problem of under funding for agricultural extension and other support facilities, most especially for rural LGUs;
- (b) With respect to participation in the project, the main issue involves the low level of support coming from the concerned LGUs, either due to lack of information about the project and/or deliberate exclusion of the concerned LGUs; and
- (c) As regards institutional, the main issue is lack of coordination among the executing agency, regional offices of line departments, and inter-LGUs.

Most of these issues should have been resolved by the decentralization and devolution process, but unfortunately the institutions that are in place for coordination and fund sourcing (e.g. RAFC, PAFC and MAFC) do not have strong secretariat support at the local levels, hence, these institutions may only convene on need basis. Thus, major agricultural and rural development issues pertaining to the IAs are often overlooked.

(2) Proposal on counter schemes of LGUs corresponding to implementation of SLRIF

The counter schemes proposed by the LGUs are expression of interests to take an active participation in the project, to wit:

- (a) Provincial LGUs initiate training and upgrade the skills of municipal technical staff;
- (b) Concerned LGUs take active role in advocacy campaign;
- (c) Concerned LGUs to support directly specific requests of farmers to the extent that fund is available; and
- (d) Concerned LGUs revive existing local committees to strengthen coordination / participation mechanism.

2.4 Issues on Coordination Mechanism: NIA, Regional Line Departments and LGUs

The issues on coordination mechanism identified in the focus group discussions (FGDs) with FIAs/IAs and LGUs are summarized below.

- (a) Shortfalls in crop budget and farming inputs such as certified seed supply due to high market price of seed, organic fertilizer due to high market price; and shortfall on extension service on agriculture machinery,
- (b) Shortfalls in agriculture extension services such as lack of extension workers of LGUs, passive activities of extension workers of LGUs, poor extension service on technical skills such as on water saving paddy cultivation (SRI) technology, shortfall of extension service on agriculture diversification (poultry, piggery, livestock raising, inland fishery, vegetables cultivation, etc),
- (c) Issues on institutional agriculture production and agricultural machinery loans such as inconvenient situation for farmer-borrowers from Land Bank and/or Cooperative Rural Banks; high interest of loans from private money lenders
- (d) Low farmgate price influenced due to lack or poor extension of post-harvest facilities, absence or shortage of warehouse to keep certified seed and fertilizer
- (e) Illegal dumping of domestic and solid waste in and around canals of NIS due to weakness of monitoring and control activities of LGUs.

- (f) Illegal mechanical quarrying in downstream of head works
- (g) Deterioration of watershed area of NIS due illegal logging activities and encroachment of settlers
- (h) Issues on IAs' management such as low activities and poor management due to missing base work space for IAs (no existing of IAs' own office / temporary space of each IA member's house as temporary office)

These issues and problems mentioned above are always emphasized by the each group concerned, such as NIA, FIAs/IAs, LGUs, DA and other stakeholders, but systematic dip-up mechanism to deal with the issues and problems on the local issues mentioned above is not identified at the each regional organization and LGUs.

Although the Regional Development Council (RDC) and the Regional/Provincial Agriculture and Fishery Council (RAFC/PAFC) exist and are functioning at the regional level, these organizations don't have any direct participation window for FIAs/IAs to discuss agriculture issues and problems. (Representatives of FIAs/IAs are not members of the organizations.)

Moreover, the Irrigation System Management Committee (ISMC) consisting of irrigation superintendent of NIA and representative of FIAs/IAs is legally and administratively established at each NIS based on the Memorandum Circular (MC) No. 36, 1997 to sustain smooth operation of NIS among NIA, FIAs/IAs, LGUs and other stakeholders, especially DA regional office, RAFC, and RDC. But, the ISMC is neither a member of nor represented in the RAFC and the RDC.

The basic weakness of the existing coordination is the non-representation of the FIA/IAs or the legally acknowledged the ISMC in the existing RAFC or PAFC, including in the RDC. It is likely that the membership in these committees is represented by other farmer groups whose concerns are generic. Thus, there is no venue for ventilating irrigation-related and/or even agriculture-related problems of the irrigation beneficiary farmers.

2.5 O&M Contract with IAs under IMT

(1) Current O&M Contract

Current O&M contract types are divided into 5 types, namely Type I, Type II, Type I & II, Joint Management System (JMS) and Type III, based on the contract conditions between NIA and IAs.

Current O&M contract consists of 4 main contents, namely (a) Management and Operation, (b) Repair and Maintenance, (c) Financial Arrangement, and (d) Collection of ISF.

In the respective contracts from the Contact Type I / Type II to Type III, the upgrading program on management knowledge and skills for IAs will depend on the contract conditions. The upgrading program is identified at the following contract conditions mentioned below.

- (a) Management and Operation
 - Preparation of operation plan including cropping calendar, program area and water delivery schedule
 - Updating of LIPA
 - Undertaking and managing of water allocation and distribution
 - Preparation and enforcement of operation-related policies, rules and regulations
 - Monitoring and information on problems and conflicts on field operation
 - Preparation of technical analysis and assessment of reports on operation to the Irrigation Superintendent (NIA)
 - Facilitation of resolution of problems and conflicts of operation
 - Establishment and calibration of discharge-measurement

- Monitoring, recording and assessment of water delivery discharge
- (b) **Repair and Maintenance**
 - Regular inspection of facilities under O&M contract and provision of technical guidance
 - Holding regular meetings on maintenance works
 - Consultation Meeting on emergency repairing and maintenance works
 - Legal assessment on current policies, laws and decrees affecting management of the NIS
 - Regular supplying of oil and grease
 - Periodic maintenance and minor repairing of access road, connecting roads
 - Monitoring, evaluation and assessment and quality control of maintenance works
- (c) **Financial Arrangement**
 - Nothing
- (d) **Collection of ISF**
 - Appointment of ISF collectors
 - Keeping collection records of ISF

(2) Status of Current O&M Contract under IMT

The new O&M contracts under the IMT are divided into 4 models, namely Model 1, Model 2 and Model 3 & Model 4. Based on the current status of IAs and the O&M contract types, the IAs have been categorized by NIA according to the corresponding contract Model that a particular IA can enter into during the 5-year implementation of IMT under the NIA RATPLAN.

Conditions of Contract Model 1 are similar to the conditions of the current Contract Type I, and the Model 2 has the similar contract conditions of the current JMS or Type I & II. Model 3 is very similar to the current Type III. General frames of the new O&M contract are shown in Attachment 7-1.

Categories of current status of O&M contract in the short-listed NIS are;

Relationship between Status of Current Contract and New Contract

Category	Status of Current Contract	Contract to be made under IMT Guidelines	Current IAs in short- listed NIS
A	No IA or IA's without O&M contact or no renewal of O&M contact	Model 1	80
B	Existing O&M contract - Type I, Type II and Type I & II	Model 2	264
C	Existing of O&M contract - JMS and Type III	Model 3	43

In the 32 short-listed NISs, about 21% of the IAs are classified under Category A, while 68% and 11% are classified as the Categories B and C, respectively.

The ultimate goal of the IMT is for all NIS to be under Model 3. Given the current status, the Category C will be the first IAs to be prepared for Models 3. In case of the Categories A and B, IAs will have to pass through Models 1 and 2 before they can be eligible for Model 3. Thus, in terms of institutional preparations, heavy intervention will be required for almost 90% of the IAs.

3. Strengthening NIA Offices and IAs

3.1 Change of NIA Organization at the Regional Level

Under the Rationalization Plan of NIA, substantial changes have been made on the organizational setup and staffing of the regional irrigation offices (RIOs). Before the rationalization, there were 6 Divisions in the RIO each of which was responsible for a group of specific functions and activities. The rationalized structure streamlined the major functions that resulted to the merger of 6 divisions into only 2 divisions as shown below.

	Before Rationalization	Rationalized Structure
Engineering	(1)Engineering, (2)Operations, (3)Institutional Development, (4)Equipment Management Divisions	(1) Engineering & Operations Division
Administration	(1)Administrative, (2) Finance Divisions	(1) Administrative & Finance Division

Under the rationalized structure, several sections are placed:

A. Engineering and Operations Division

1. Planning and Design Section
2. Construction Management Section
3. Operations Section
4. Institutional Development Section
5. Equipment Management Section

B. Administrative and Finance Division

1. Finance Section
2. Administrative Section

The functions of the RIO are:

- a) irrigation development planning
- b) construction of irrigation projects and rehabilitation of facilities
- c) monitoring and evaluation, repair and maintenance of irrigation systems
- d) organization and development of IAs, and
- e) coordination with relevant agencies and farmers.

Under the supervision of the RIO are the Irrigation Management Offices (IMOs) which are established for a province or a cluster of 2 or more provinces. The IMOs replaced the former Provincial Irrigation Offices (PIOs) and National Irrigation System Offices (NISOs) which were abolished and merged to form the IMO.

The detailed responsibilities of an IMO are:

- a) Investigation and survey
- b) Planning and construction of irrigation projects
- c) O&M of NIS
- d) Collection ISF in NIS and amortization payments in communal and pump irrigation systems
- e) Technical assistance to LGUs on the construction, O&M of communal irrigation systems
- f) IA development and assistance

Under the IMO are the Engineering, Operations and Maintenance (E, O&M) Sections which directly manage an NIS or a group of NISs, and carry out activities for the establishment and development of

IAs. The E,O&M Sections will also be directly responsible for the institutionalization of IMT. A typical functional chart of RIO and IMO is shown in Figure 7-1.

The proposed SLRIF project will be implemented in 32 NIS within the coverage of 16 IMOs located in 8 regions. The number of staff (technical, O&M and institutional development staff) in each of the RIOS and IMOs covered by the project is shown in Table 7-8 and summarized below.

There are 986 position items approved for the 8 regions covered by the project of which 316 positions items are in the 8 RIOS and 670 items are in the 16 IMOs. Within the 5-year transition period of the Rationalization Plan, there are 361 staffs who are still employed but whose positions will be abolished and are classified as co-terminus with the incumbent (CTI). Thus, at present, the total number of positions in the 8 regions is 1,347.

Of the present total number of 1,347 positions items (including CTIs), at the RIO and IMO levels there are 210 technical positions (engineering) and only 39 items are for institutional development staffs. For the 32 Sub-Projects/NISs covered by SLRIF, there are 34 technical positions, 14 institutional development, 90 SWRFT/WRFT positions and 117 are WRF Operators/Tenders.

It is noted that 11 out of the 16 IMOs covered by SLRIF don't have institutional development (IDO) position items at the head office while 5 IMOs don't have these items at the Sub-Project/NIS level. Likewise, 4 out of the 16 IMOs don't have engineer positions at the Sub-Project/NIS level. This situation has significant implications on SLRIF implementation particularly on the institutionalization of IMT wherein the engineers and IDOs will be playing very vital role in the synchronous implementation of the physical (civil works) and institutional activities at the field level, and are also jointly responsible in strengthening the IAs.

a) Implications of RATPLAN on IMT institutionalization

Another important observation at the NIS level is that the SWRFTs will be responsible for carrying out the institutional development activities including the provision of technical assistance to the IAs and coordination with relevant agencies and LGUs for support services. However, while the SWRFT position has the same salary grade as that of an IDO (Salary Grade 12) the required educational qualification for SWRFT is only High School Graduate while that of an IDO is College Graduate with Civil Service Eligibility. Besides being a HS graduate, the area coverage of SWRFT was increased from the former 750-1000 ha to 1,500 ha. According to the MSD, this new area coverage of SWRFT was established on the assumption that after the implementation of the RATPLAN most, if not all, of the SWRFT responsibilities on O&M will be assumed by the IAs under the IMT program.

The qualification standards for SWRFT do not seem to fit the requirements called for in the functions and responsibilities of this particular important NIA position item. It is to be reminded that under the RATPLAN, the SWRFT will be responsible for providing direct technical assistance to the IAs on O&M and other matters needed to build the capability of the IA as a self-reliant, organizationally strong and financially viable association of irrigation farmers. The SWRFT will have a vital role in linking the IA with other agencies in order that it can avail of important support services specifically on agricultural credit. In this, the SWRFT should be able to assist the IA prepare loan application documents such as farm plan and budget, etc. Basic concern here is can a H.S. graduate be able to do such technical, analytical activities?

b) Strengthening Inter-Agency Coordination

In building the IA capability, there is also a need for the NIA offices at the field level to enhance the linkage mechanism with the other agencies and institutions at various levels. Most important coordinating bodies which have direct contact with the IAs are the LGUs at the municipal, city and provincial levels. The IMOs will be the NIA organizations that have to coordinate closely with the LGUs in the crafting and implementation of programs and activities that will have direct impact on the sustainability of the IAs.

Through the DA Regional Field Units (RFUs), the NIA regional irrigation offices (RIOs)

should strengthen the coordination with the Regional Development Councils (RDCs) and Regional Agriculture and Fisheries Councils (RAFCs) and the counterpart bodies at the provincial, city and municipal levels.

The RDC was created and reorganized under the 1987 Philippine Constitution, and serves as the highest policy-making body in the region. The RDC coordinates and sets the direction of all economic and social development efforts in the region. It also serves as a forum where local efforts can be related and integrated with national development activities.

As the IAs and their Federations develop into strong organizations desiring for other corollary programs and services, they have to be linked with the RDC. As such, the RIOs should work out a mechanism for the representation of the IAs in the RDC.

Similarly, the IAs should also be linked with the private and non-government sectors. This can be done through the representation of the IAs in the Agriculture and Fisheries Councils (AFCs) at various levels (regional, provincial, city and municipal levels). The AFC serves as the advisory body primarily to promote private sector participation in agricultural and fishery development through consultation, advocacy, planning, monitoring and evaluation of projects.

c) Strengthening NIA-IA coordination

MC No. 36, Series of 1997 directs all NIA offices to provide technical and assistance to the IAs and their Federations at various levels in order to ensure their continued growth and development. This particular MC provides the Terms of Reference (TOR) for the establishment and operationalization of an Irrigation System Management Committee (ISMC) in each NIS.

Basically, the NIA RATPLAN hopes to establish a close relationship and partnership between NIA and the IAs in the sustainable management of the O&M of irrigation systems. As such, there is a need to establish an ISMC in NIS where it is not yet existing and/or revitalize ISMC in case it is already established. This will require the preparation of detailed procedures and guidelines for monitoring and assessing the activities of ISMC.

3.2 Necessity and Action to Strengthen RIO and IMO

The implementation of the NIA rationalized structure and staffing pattern has just started. The institutional and structural reforms under the RATPLAN call for the movement of existing staff to perform functions and activities all focused towards the planning and implementation of irrigation facility construction and rehabilitation in synchrony with IA strengthening and capability building for the institutionalization of IMT. This is particularly taking place at the RIO and IMO levels. As committed by NIA in its 5-year Transition Plan, the O&M of all NIS must have been transferred to the IAs by the end of 2013.

Premised on the principles and objectives of the RATPLAN, it is indispensable to formulate and implement institutional and capacity building programs and activities both for the NIA staff and the IAs particularly on implementing IMT.

For the capability development of staffs of RIOs and IMOs, the following trainings should be undertaken insofar as the implementation of SLRIF and similar projects is concerned.

1. planning, design and implementation of civil works construction in close consultation and participation of IAs; building IA "ownership of the facilities" that will be turned over to them;
2. performing institutional and social works for reorganizing/strengthening IAs and for the institutionalization of IMT;
3. monitoring and evaluating, quality assurance assessment of civil works construction by contractors in close cooperation with IAs;

Annex C

4. monitoring and assessment of the activities of ISMC, and O&M performance and functionality of IAs;
5. computer-based asset management and data housekeeping;
6. provision of technical assistance and guidance to IAs, and networking/coordination with concerned agencies and LGUs for the provision of agricultural support services and livelihood programs to IAs; and
7. promotion of modern crop production technologies to increase farm productivity and farmers' income, and promote water savings.

For strengthening the IAs the following concerns should be addressed:

1. formation/reorganization of TSAGs and IAs; establishment / revitalization of Federations of IAs at various levels;
2. increase membership to include tenants, leaseholders, and other water users;
3. leadership development; strengthen participation in ISMC and representation in other coordinating bodies, i.e. development councils of LGUs, AFCs and RDC;
4. formulation and enforcement of IA policies, and O&M rules and regulations;
5. billing and collection of ISF, remittance of collections, and general financial management of IA funds;
6. preparation of O&M plans; cost estimates for routine and emergency repairs;
7. preparation of project proposals for availment of corollary assistance programs from government agencies/institutions, private and non-government organizations;
8. conduct of meetings at various levels, i.e. TSAG, BOT and General Assembly;
9. self-monitoring and assessment of O&M performance, and other IA projects;
10. adoption of productivity enhancement and water saving technologies; and
11. mechanisms for building transparency and accountability in all IA operations.

Corollary to the above-mentioned capability strengthening programs, the following actions are deemed necessary and indispensable:

- (a) review and improve the criteria and procedures in evaluating the performance of NIA's offices, managers and staffs;
- (b) the existing IA functionality survey may need also to be reviewed and revised to give more importance and weight on the IA's activities and performance on IMT;
- (c) in the light of IMT, the asset management and data housekeeping/record keeping should be standardized and institutionalized from the IA level up to NIA main headquarters for easier data retrieval for decision-making and action. For this purpose, there may be a need to adopt the system of the International Organization for Standardization (ISO);
- (d) the most urgent and critical action that NIA has to make is the revision of the qualification standards for the SWRFT position. As mentioned earlier, the SWRFT will be the direct NIA contact person with the IAs. He/she is expected to perform both institutional development and O&M responsibilities during the RATPLAN transition period, and provide continuing assistance to the IAs after the turnover of the management of the O&M of the irrigation facilities. Overall, at the field level, the SWRFT is a NIA manager by himself. Unfortunately, under the RATPLAN, the SWRFT position requires a H.S. diploma as the minimum educational qualification, and, thus, his educational competence and technical capability are not appropriate to assess, analyze and interpret situations and translate these into actions;

Whatever be the action of NIA relative to the SWRFT, it should be done as immediately as possible. NIA has to bear in mind that the proposal will be subject for approval by two agencies: (a) the DBM for the upgrading or re-titling of the position; and (b) the Civil Service Commission (CSC) for the qualification standards of the position. Meantime, NIA has to issue a directive to the RIOs and IMOs to hold in abeyance and/or suspend the filling up of the SWRFT positions with H.S. graduates;

- (e) in cognizance of the dearth of manpower of the IMOs under the RATPLAN, during SLRIF implementation in the Sub-Projects/NIS without engineering and IDO positions, NIA should consider the hiring of engineers and institutional development staffs (IDOs) using local or loan funds. NIA should likewise endeavor to support and defend to the concerned agencies (DA and DBM in particular) the proposal for additional temporary staffs and the creation of the Project Management Office (PMO) at NIA Central Office in order to ensure effective and efficient implementation of the proposed SLRIF project; and
- (f) NIA to ensure that the ISMCs are institutionalized and operational with full participation of the IAs and their Federation; and that the IAs have been properly represented in the inter-agency coordinating bodies at various levels.

3.3 Necessity of Coordination Improvement among Local Stakeholders

Institutional weakness on coordination mechanism among the local stakeholders is mainly caused by bureaucratic problems, especially poor inter-departmental coordination / organizational structure.

Execution of institutional improvement on regional organizations is strongly proposed together with the change or modification in legal background such as laws, acts, regulations and rules that impact on the successful implementation of the IMT as well as rehabilitation works of NISs.

- (a) Improvement of access mechanism on participation of FIAs/IAs and ISMC to Regional Agriculture and Fishery Council (RAFC)
- (b) Improvement of access mechanism on participation of FIAs/IAs and ISMC to Regional Development Council (RDC)

Furthermore, NIA needs to execute the special improvement program on “the strengthening ISMC’ function to obtain aggressive participation of FIA/IA member and other stakeholders” during implementation stage of irrigation management transfer (IMT) by NIA.

3.4 Necessity of Strengthening FIAs/IAs’ Management and Organizational Reformation

Considering the issues / problems and the counter schemes of FIAs/IAs mentioned above, the following activities needs for improving FIA/IA management capacity to correspond to the implementation of the IMT as well as the rehabilitation works under the SLRIF.

- (a) Organizational reformation for FIAs/IAs, especially reformation of TSAG and IA.
- (b) Strengthening participation of FIAs/IAs in the ISMC of NIS.
- (c) Strengthening coordination activities of FIAs/IAs among NIA, regional organizations (RAFC / PAFC), LGUs and other government agencies concerned.
- (d) Capacity improvement of FIA/IA members on planning of irrigation system O&M.

3.5 Necessity and Actions to strengthen Function of NIA Office

(1) Necessity of Rebuild-up on Management Capacity of NIA Personnel at Regional Level

Considering the current inadequate management performance and activities of the RIO and the IMO such as

- (a) Inadequate function and activities of ISMC,
- (b) Inadequate coordination with Regional Development Council (RDC) in corporation

with NEDA Regional Office and Regional Agriculture and Fishery Council (RAFC) in corporation with DA Regional Office,

- (d) Inadequate report activities and their circumstance conditions of NIA personnel on preparation of budget and ISF collection plan,
- (e) Weakness of monitoring, assessment and record keeping system,
- (f) Slow progress in filling up the approved position items of NIA RATPLAN due to qualification problems of SWRFT as IDOs, and
- (g) Demand for energetic, dedicated and committed Institutional Development Officer (IDO) and other institutional development personnel, RIO and IMO for the successful implementation of IMT,

Under the SLRIF there is a need to carry out rebuild-up program on management capacity of NIA personnel at regional office level through workshop and on-the job training during implementation of the IMT.

Furthermore, NIA personnel at the RIOs and IMOs should be provided with capacity building activities to enhance their skills and knowledge in coordinating with stakeholders particularly relating to the rehabilitation and O&M works. And, introduction of new management tool like International Organization for Standardization (ISO) system is also an option for strengthening the M&E and reporting system of NIA.

(2) Necessity of Exploration for Fund Sources for O&M

Desirable amount of O&M cost/ha, of which prolongs the useful economic life of the irrigation systems was estimated at PhP3,000/ha at 2007 prices through the ADB Study on Cost Recovery in 2000. But, the O&M budget for most of the systems is under funded. This is a serious issue that NIA has long recognized.

Furthermore, a seriously fundamental issue is the cost allocation between MOOE and PS, of which the allocation for PS is dominantly more than 85%, and in some cases, nearly 100 % of the NIS budget. This is one of the major reasons for the poor functionality of most NISs. What should be adjusted is the share of MOOE reflective of the need of each NIS for the maintenance of irrigation facilities.

Under the implementation of the IMT, the establishment of the NIMF and PTF and other sources of fund for O&M are also considered, but these sources of fund are not likely the universal remedy for this particular problem.

Alternatively, NIA could explore other venues for sourcing funds for PS. One option could be a change in its legal structure from corporate to a bureau under the DA maybe explored under the implementation of the IMT. If this could materialize, then ISF could allocated exclusively for the O&M of NIS.

(3) Necessity of Technical Assistance to NIA in IMT implementation

In cognizance of the mandate of NIA on IMT implementation and the ongoing staffing and personnel movement it committed under its RATPLAN, the provision of technical assistance to NIA is deemed necessary and indispensable. The technical assistance should focus, but not necessarily limited, to the provision of technical guidance but should include institutional and capacity building for the NIA offices as all the staffs' functions and the agency's resources are now directed towards the implementation of IMT. This NIA's mandate will need the external assistance in the formulation of definitive plans, programs and guidelines for ensuring successful implementation of rehabilitation in synchrony with the implementation of IA preparation and IMT institutionalization..

3.6 Proposed Program to strengthen NIA Office and IAs

(1) Institutional Improvement Program of Regional Organizations, DA and NIA

To deal with poor coordination mechanism on agriculture improvement / development at regional level, such as regional organizations concerned, regional government agencies, especially DA and NIA, the following institutional improvement program is proposed together with the change/modification in legal background such as relevant laws, acts, regulations and rules.

(a) Strengthening program of NIA-IAs-LGU Partnership

- Improvement of access mechanism on participation of FIAs/IAs and ISMC to Regional Agriculture and Fishery Council (RAFC)
- Improvement of access mechanism on participation of FIAs/IAs and ISMC to Regional Development Council (RDC)
- Special improvement program on “the strengthening ISMC function during implementation stage of irrigation management transfer (IMT).

(2) Strengthening Program on FIAs/IAs’ management and up-grading of O&M Contract

To deal with issues and problems of FIAs/IAs’ management and successful turn-over of NIS, the following 2 programs are proposed.

Program-1: Reactivation and reformation of FIA/IA and Turnout Service Area Group (TSAG) including strengthening the ISMC of NIS

Aims:

- a) Increase of membership;
- b) Increase of cropping intensity and ISF collection efficiency under strict monitoring and evaluation of LIPA; and
- c) Step-up of O & M contract from Model 1 to Model 2 or Model 2 to Model 3.

Program frames:

- a) Area/hydraulic boundaries of TSAG, IAs and FIAs are verified based on the standard manageable size of each area such as 20 ha to 50 ha of TSAG, 150 ha to 300 ha of IA and 500 ha to 1,000 ha of FIA, respectively, and relocation of tertiary and drainage canals is done, if necessary;
- b) Strengthen program of participation of IAs member in ISMC’s activities is done through personnel movement/deputation of appropriate NIA staff, provision of specific IA/FIA work space at IMO office including the minimum requirements of office facilities, orientation/meeting workshop on the IMT implementation and on-the-job training of NIA staffs and IA officers and members; and
- c) Capacity improvement workshop/training on managerial capacity of FIA/IA staff is done.

Program-2: Strengthening physical support of FIAs/IAs’ management under the IMT (IMT support facilities)

Aims:

- a) Increase of membership & participation of IA member and farmer beneficiaries in ISMC’s activities;
- b) Increase of cropping intensity;
- c) Improvement of ISF collection activities, M&E system, to increase collection efficiency; and
- d) Step-up of O & M contract from Model 1 to Model 2 or Model 2 to Model 3.

Program frames:

- a) Workshop on selection criteria and evaluation system on FIA/IA for

construction of IMT support facilities

- Evaluation of FIAs/IA's institutional proposal on IMT support facilities (Demand Base);
 - Institutional field survey and interview survey to FIA/IA, NIA RIO and IMO, LGUs and other stakeholders for candidate locations of FIA/IA; and
 - Assessment and review of results of the FIA/IA proposal and dissemination on legal registration.
- b) Construction of IMT support facilities at 111 sites.
- FIA's office, (120 m²) for operation and management; and
 - Multi-purpose dry-yard (400 m²) and warehouse (200 m²) of agricultural input and output to establish secure seed supply mechanism and local trading center for paddy, etc.
- Construction site is, in principle at least, one location/ IA or FIA base, (total site: 111 sites of IA/FIA)*
- c) On the Job training on monitoring and evaluation of LIPA at the IMT support facilities to increase of cropping intensity and ISF collection efficiency at the IMT support facilities;
- d) On the Job training on capacity building of IAs on financial, technical, social and legal management at the IMT support facilities; and
- e) On the Job training on ISF collection, monitoring and assessment of ISF collection, etc. at the IMT support facilities.

(3) Strengthening program on management capacity of NIA personnel and NIA Office

To deal with issues and problems of management capacities of NIA and NIA personnel at regional level, the following program are proposed.

- a) NIA institutional Strengthening Program including
- Special improvement program on strengthening function of the System Management Committee (ISMC) and coordination / networking with other stakeholders at various levels
 - Rehabilitation planning, design and construction implementation synchronously with the IA strengthening and IMT insitutionalization

(4) Specific programs

In line with execution of basic institutional improvement programs, the following three specific programs, of which the LGUs and government agencies concerned can take action prior to the commencement of rehabilitation works and able to be continued during the rehabilitation works are strongly proposed

- a) Monitoring and Control Program on Illegal Mechanical Quarrying at the downstream of head works to be rehabilitated
- b) Improvement Program for the Watershed Management of the NIS
- c) Monitoring and Control Program on informal settlers (squatters) and Illegal Dumping of Waste Materials

Specially, the programs (a) monitoring and control program on illegal mechanical quarrying and (c) monitoring and control program on illegal dumping of waste materials are significant programs that will have long-term impact on the NIS to be rehabilitated under SLRIF.

The program (b) improvement program of watershed management is indispensable program for the Philippines Government, especially DENR. The Government is strongly requested to consider the integration programs on the reforestation in watershed areas of the

short-listed NIS.

(5) Target of O&M Contract under the SLRIF

Corollary to the implementation of the institutional improvement programs, especially on “the strengthening IAs’ management” and “the strengthening management capacity of NIA personnel at regional and IMO levels”, which are primarily focused on the implementation of the IMT, step-up of current O&M contact from Model 1 to Model 2 or Model 2 to Model 3 to accelerate a full turnover of NIS to FIAs/IAs shall be accomplished. Target number of O&M contracts, (Model 1, 2 & 3) is shown below, subject, however, to prompt and proper IMT implementation by NIA.

Basic conditions of the target set-up are;

Classification		Basic Conditions of Target Set-up
1	Service Area < 3,500ha	Up-grading of one (1) step-up of Model in 80 % of IAs
2	Service Area > 3,500ha	Up-grading of one (1) step-up of Model in 50 % of IAs

Number of IAs by Contract Model after completion of IMT implementation

Category	Model of each Category mentioned in Guidelines of IMT	Current IAs in short listed NIS	Target Number of Model after completion of IMT implementation	Increase / Decrease
A	Model 1	80	16	-64
B	Model 2	264	149	-115
C	Model 3	43	222	179

Table C-1 Answer to Questionnaire on Budget Analysis by RIO

Description	Region 1	Region 3	Region 4	Region 6	Region 10	Region 11	Region 12	Region 13
1 Preparation of budget and ISF program by:	IS & PIO	Budget: Sr. Financial Analyst; ISF: Manager of IMO	Budget: Accounting Clerks; ISF: Billing clerks and O&M personnel	Budget: Financial Planning Specialist B; ISF: Accounting processor B	Budget: Field offices and consolidated at regional office	Budget: Field Office and each division of RIO, ISF: Chief of system	Budget: Officer of PIO, ISF: Water Master, IA Officers, Irrigation Superintendent (S) & O & M manager	Budget: Financial Section of PIO, ISF: Operation, Institutional & Equipment Section of PIO
2 Conditions of estimation	PS: actual staffing pattern; MOOE: based on previous year expenses, income: based on benefited area	Previous Budget/target/actual income and expenses and personnel complement and projection of project funds for billing	Actual PS and prior year's MOOE; ISF: actual irrigated and planted area	Programmed area, personnel complement and annual O&M	Irrigated area	MOOE: actual of proceeding year plus 10 %, ISF: Program area to be irrigated and planted multiplied by prevailing NFA support price	PS: Filled-up positions, MOOE: actual of proceeding year plus 10 %, ISF: Program area to be irrigated and planted multiplied by prevailing NFA support price	Target and actual performance of previous year and resource opportunities of the current year
3 Numbers of staff concerned	13	14	4	Regional office level 3	3 each at field office and 3 at regional office	7	Approx. 10 depends on numbers of WRFT/IAs	20
4 Process from preparation to approval	Preparation: NIS & PIO, Consolidation: FO - PIO, Approval: CO	Preparation: IMO, Consolidation, Region, Approval: CO	Preparation: Field offices; Consolidation: Region; Approval: CO	Preparation: NIS & PIO, Consolidation: FO - PIO, Approval: CO	Field offices prepare and submit budget to region for review/approval and consolidation then transmitted to central office	Preparation: IMO, NIS & PIO, Consolidation: IMO (2 times), Division of PIO (0 time), FO - PIO (1 time), Approval: CO	Preparation: IA Water master, IMO, NIS & PIO, Consolidation: IMO (1 time), FO - PIO (2 time), Approval: CO	Preparation: IMO, NIS & PIO, Consolidation: IMO, PIO (1 time), FO - PIO (2 time), Approval: CO
5 Reasons of big difference between the approved budget and expenses	Benefits of retired employee, Maintenance and other operation expenses	Approved budget considers all expenses, while actual expenses are only those funded with cash.	Due to PS, mainly retirement benefits	No monitoring and assessment of expenses	Budget is higher than expenses by at least Php 500,000 for small offices and more than Php 500,000 for big offices	Increase of employees benefits and increase of fuel cost and power consumption. Accounted amount is different (Php 40. millions) compared to the reported	Insufficient MOOE because of the 1st priority to PS cost	Due to viability effort to reduce expenses ??? What is the complicate estimation of the budget request.
6 Reasons of big difference between the scheduled income and actual income	Lack of manpower???	Due to huge projection of ISF, but actual collection is low	Due to unreleased project funds	Actual benefited area and attitude of farmers"	Positive difference (actual is greater than scheduled income) is due to good harvest, while negative difference (actual is less than scheduled income) is due to crop failure	Due to sale of idle properties and collection of advance amortization	Due to crop infestation and manmade calamities	Due to low production
7 Monitoring & Assessment Mechanism on expenses and collection of ISF	Collectors' attitude on remittance of collected ISF, Audit Collectors and Cashiers, Cashiers are requested to submit deposit slips on the report of collection	Monitoring and audit teams are being sent to field offices to spot audit	Collection reports validated by official and deposit slips; cash examination and audit of accountable officers	Verification of collection and deposit reports with deposit slips and receipts	Remittance of ISF collection is done daily based on official receipts issued on that particular day	Prompt and updated posting of collections to individual irrigation fee registers (IFR) and Spot audit of ISF Collection	Accounts analysts check semi-monthly, and Periodic and surprise audit of collections, regular audit and cash examination by COA	Random Audit and Cash Audit
8 Proportion of ISF in annual income (%)	72	76	73	80	90	71	75	46
9 Ratio (%) of Personnel Cost in O&M Cost	87	51	57	90	50	67	64	61

Data Source: JICA SLRIF Field Survey

TableC-3 Annual O&M Cost (PS cost & MOOE) for NIS at NIS Base

RIO	IMO	Code	NIS	Total Cost (Php/ha)												Maintenance Operation & Other Expenses (MOOE) (%)												Personnel Cost (%)											
				Total Cost (Php/ha)												Maintenance Operation & Other Expenses (MOOE) (%)												Personnel Cost (%)											
				2004	2005	2006	2007	2008	Ave.	2004	2005	2006	2007	2008	Ave.	2004	2005	2006	2007	2008	Ave.	2004	2005	2006	2007	2008	Ave.												
1	Ilocos Norte	0101	Laag Vintar	1,388	760	1,478	1,660	1,320	1,321	1,321	1,321	1,321	156	75	109	0	43	77	0	3	6	89	90	93	100	97	94												
		0102	Dingras	1,046	1,342	1,474	1,508	1,253	1,325	1,325	1,325	1,325	67	69	101	98	27	72	6	2	5	94	95	93	94	98	95												
		0103	Madongan Area	92	144	158	201	0	149	0	149	0	149	0	0	0	15	0	4	0	2	100	100	100	100	100	100	98											
		0104	Soisona Area	101	159	157	209	208	167	0	167	0	167	0	0	17	0	0	3	0	0	2	100	100	89	100	100	98											
		0105	Labugan Area	105	156	171	207	206	169	0	169	0	169	0	0	17	0	0	3	0	0	2	100	100	90	100	100	98											
		0106	Papa Area	153	224	270	322	321	258	0	258	0	258	0	0	24	0	0	5	0	0	2	100	100	100	100	100	98											
3	Ilocos Sur	0107	Sta. Lucia - Candon	597	605	825	910	901	768	0	768	0	18	26	27	56	25	0	3	3	6	100	97	97	97	94	97												
		0108	Tagudin	791	591	542	608	901	687	0	687	0	687	0	39	43	60	71	43	0	7	8	100	93	92	90	92	94											
		0109	Amburayan	3,065	3,791	3,021	3,373	3,410	3,332	3,410	3,332	3,410	3,332	658	381	347	244	450	416	21	10	11	79	90	89	93	87	87											
		0110	San Fabian	2,463	1,087	1,062	1,119	1,574	1,461	58	79	92	71	67	73	2	7	9	6	4	6	98	93	91	94	96	94	94											
		0111	Dumutoc	1,683	1,978	1,772	1,888	1,989	1,858	95	129	129	117	110	116	6	7	7	6	6	6	94	93	93	94	94	94	94											
		0301	Porac-Gumain	2,785	3,259	3,590	3,319	4,105	3,412	223	472	824	665	691	575	8	14	23	20	17	16	92	86	77	80	83	84	84											
4	Laguna-Rizal	0401	Sta. Cruz	1,076	1,159	1,043	910	1,325	1,103	28	28	28	28	28	28	28	28	28	2	3	3	97	98	97	97	98	97												
		0402	Dumecceca	2,508	1,956	1,981	2,261	2,521	2,245	195	0	30	134	180	108	8	0	2	6	7	4	92	100	98	94	93	96												
		0403	Malaigao	1,056	949	1,232	1,414	1,775	1,285	31	50	202	523	595	280	3	5	16	37	34	19	97	95	84	63	66	81												
		0601	Suage	692	550	676	713	574	641	90	82	94	87	78	86	13	15	14	12	14	14	87	85	86	88	86	86												
		0602	Aganan	653	800	892	667	902	783	85	110	116	92	127	106	13	14	13	14	14	14	87	86	87	86	86	86												
		0603	Sta. Barbara	1,270	1,154	1,024	1,296	1,020	1,153	165	145	123	153	112	140	13	13	12	12	11	12	87	87	88	88	89	88												
6	Negros Occidental	0604	Pangiplan	2,063	2,328	2,470	2,544	2,295	2,340	268	280	305	335	275	293	13	12	12	13	12	13	87	88	88	87	88	87												
		1001	Manupali	1,800	2,110	2,850	2,375	2,416	2,310	200	214	307	513	514	350	11	10	11	22	21	15	89	90	89	78	79	85												
		1002	Palangui	1,214	1,308	1,325	1,304	1,638	1,358	303	359	334	299	486	356	25	27	25	23	30	26	75	73	75	77	70	74												
		1003	Mulieta	1,818	1,731	2,114	1,703	2,127	1,899	234	210	180	332	230	237	13	12	9	19	11	13	87	88	91	81	89	87												
		1101	Mal	519	789	769	908	878	773	340	587	441	622	661	530	66	74	57	69	75	68	34	26	43	31	25	32												
		1102	Padada	685	894	876	1,017	1,003	895	298	298	477	295	543	430	44	53	34	53	53	47	56	47	66	47	47	53												
11	Davao del Sur	1201	Lambayong	1,054	1,034	1,117	1,091	1,180	1,095	309	255	301	212	250	265	29	25	27	19	21	24	71	75	73	81	79	76												
		1202	Tacurong (Dumaguil)	755	741	800	781	845	784	222	182	216	152	179	190	29	25	27	19	21	24	71	75	73	81	79	76												
		1203	Banga	1,802	1,810	1,920	2,373	1,918	1,954	814	790	944	1,190	854	918	45	44	49	50	45	47	55	56	51	50	55	53												
		1204	Marbel - 1	1,745	2,398	2,028	1,379	2,504	2,011	658	948	730	465	993	759	38	40	36	34	40	37	62	60	64	66	60	63												
		1205	Marbel - 2	2,680	2,366	2,460	3,164	2,477	2,629	935	941	837	1,370	1,029	1,022	35	40	34	43	42	39	65	60	66	57	58	61												
		1206	Situyay Buayan	2,712	3,101	2,736	2,848	3,232	2,926	620	546	527	544	852	618	23	18	19	19	26	21	77	82	81	81	74	79												
13	Agusan del Norte-Surigao del Norte	1301	Cabaobaran - Taguibo	1,422	1,367	1,113	1,405	1,305	1,323	293	280	159	256	216	241	21	21	14	18	17	79	79	86	82	83	82													
		1302	Simulao	1,299	1,625	1,569	1,501	1,621	1,523	297	487	320	308	353	353	23	30	20	21	22	23	77	70	80	79	78	77												
Average				1,347	1,383	1,422	1,468	1,604	1,436	239	257	295	325	273	16	17	17	18	19	17	84	83	83	82	81	83													

Table C-4 Summary of Index of IA Profile, O&M Performance and Functionality

Cod No.	Region	Irrigation Management Office (IMO)	NIS	Service Area (ha)	Number of FIAs	Number of IAs	Membership (%)		Tenurial status of IA member in 2008 (%)			Functionality of IA (rating point)						
							2007	2008	Tenant	Leaser	Owner	2004	2005	2006	2007	2008		
0101	Region 1	Ilocos Norte	Laoag Vintar	2,286	1	5	85	85	75	6	19	84	85	85	86	82		
0102			Dingras	1,004	1	3				93	0	7	0	0	75	75	79	
0103			Madongan Area	2,933	1	8				35	32	33						85
0104			Solsona Area	1,340	1	5				62	28	34						79
0105			Labugaon Area	1,470	1	14				40	11	33						77
0106			Papa Area	2,337	1	3				70	19	46						85
0107			Sta. Lucia - Candon	1,423	1	8				82	22	46						84
0108			Tagudin	1,253	1	6				52								96
0109			Amburayan	3,289	1	14				65	14	44						78
0110			San Fabian	2,026	1	7				76	9	70						63
0111			Dumoloc	1,232	0	11				85	14	61						46
		Sub-total / Average		20,593	10	84	71	70	45	39						78		
0301	Region 3	Pampanga - Bataan		3,126	1	23		92	12	25						82		
		Sub-total / Average		3,126	1	23		92	12	25						82		
0401	Region 4	Laguna - Rizal		2,185	0	5		100	0	21						78		
0402		Quezon-Marinduque		1,839	0	8		41	13	48								
0403		Palawan		3,014	1	22		83	37	0	63						90	
		Sub-total / Average		7,038	1	35		74	24	30	44						84	
0601	Region 6	Suague		2,454	0	7		73	14	27								
0602		Aganan		4,467	1	8		79	39	21							83	
0603		Sta. Barbara		3,063	1	4		73	32	23							85	
0604		Pangipian		1,169	1	6		80	11	28								
		Sub-total / Average		11,153	3	25	77	76	24	25							84	
1001	Region 10	Manupali		1,800	1	8		73	13	45							58	
1002		Pulangui		10,557	1	43		55									75	
1003		Muleta		1,800	1	8		86									79	
		Sub-total / Average		14,157	3	59	79	78	13	45							71	
1101	Region 11	Mal		2,635	1	13		99	38	27							90	
1102		Padada		2,542	1	6		100	23	40							61	
		Sub-total / Average		5,177	2	19	99	82	31	33							75	
1201	Region 12	Lambayong		11,355	1	39		85	45	10							80	
1202		Tacurong (Dumaguili)		1,761	1	8		100	60	8							79	
1203		Banga		2,546	1	23		89	27	8							84	
1204		Marbel - 1		1,856	1	17		86	23	7							81	
1205		Marbel - 2		1,641	1	13		89	36	12							83	
1206		Siluy-Buayan		1,420	1	10			93	7	31						78	
		Sub-total / Average		20,579	6	110	87	91	42	9							81	
1301	Region 13	Agusan Del Norte - Surigao Del Norte		2,500	1	15		91	2	57							82	
1302		Agusan Del Sur		2,540	1	17		100	9	58							96	
		Sub-total / Average		5,040	2	32		95	5	57							89	
		Total		86,863	28	387												

Table C-5 (2/2) Summary of Index of O&M Performance

Code No.	Region	Irrigation Management Office (IMO)	NIS	Service Area (ha)	Number of FIAs	Number of IAs	Plant Season	Program Area in 2008		Planted Area in 2008		Crop Intensity (%)		Yield (cav/ha)		Collection Efficiency (%)	
								(ha)	(%)	(ha)	(%)	2008	Ave. 5 years	2008	Ave. 5 years	2008	Ave. 5 years
1001	Region 10	Bukidnon	Manupali	1,800	1	8	Wet	1,674	38	1,537	35	44	75	81	85	68	
1002				10,557	1	43	Dry	1,434	33	1,454	33	31	na	84	78	57	45
1003				1,800	1	8	Dry	10,019	88	na	na	97	94	87	84	78	76
			Muleta	1,800	1	8	Wet	1,615	100	1,229	76	96	84	80	72	60	
				14,157	3	59	Dry	13,201	77	2,765	56	79	81	79	78	70	
			Subtotal				Dry	13,068	73	2,668	54	75	83	76	63	54	
1101	Region 11	Davao del Sur	Mal	2,635	1	13	Wet	2,500	91	2,310	85	93	90	86	86	85	
1102				2,542	1	6	Wet	2,406	90	2,753	86	92	91	92	84	86	81
			Padada	5,177	2	19	Dry	4,992	94	2,310	91	95	102	97	79	81	
			Subtotal				Dry	4,899	94	5,263	93	96	102	94	84	73	
1201	Region 12	Sultan Kudarat	Lambayong	11,355	1	39	Wet	8,329	73	7,615	67	86	86	79	54	50	
1202				1,761	1	8	Dry	7,177	63	7,182	63	73	68	65	53	37	40
1203				2,546	1	23	Wet	1,530	87	1,412	80	92	90	82	81	68	68
			Banga	1,856	1	17	Dry	1,500	87	1,368	78	78	73	65	51	50	
			Marbel - 1	1,641	1	13	Wet	2,525	99	2,525	99	99	58	77	86	94	
			Marbel - 2	1,420	1	10	Dry	2,546	100	2,508	99	99	69	78	88	88	
			Sillay-Buayan	20,579	6	110	Wet	1,813	97	1,813	97	96	77	85	87	84	
			Subtotal				Dry	1,864	100	1,835	98	98	74	77	84	78	
1301	Region 13	Agusan Del Norte - Surigao Del Norte	Cabadbaran - Taguibo	2,500	1	15	Wet	1,630	99	1,630	99	99	85	90	92	92	
1302				2,540	1	17	Wet	2,330	92	2,385	94	100	83	68	66	83	77
			Simulao	5,040	2	32	Dry	4,617	81	4,672	83	88	68	68	72	71	
			Subtotal				Wet	2,330	91	2,381	85	85	65	65	83	77	
							Dry	2,330	91	2,381	46	92	68	71	72	71	

Table C-6 Summary of Federation of Irrigators Association (FIA) and IA

No.	Region	Code No.	Name of NIS	Irrigation Management Office (IMO)	Location		FUSA Area (ha)	Number of FIAs	Number of IAs	Size of IAs (ha) standard 150 - 300	Number of TSAG	Size of TSAG (ha) standard 20 - 50		
					Province	Municipality								
1	Region 1	0101	Laog Vintar	Ilocos Norte	Ilocos Norte	Vintar, Sarrai, Bacarra, Laoag City	2,286	1	5	55 - 630	68	8 - 64		
2		0102	Dingras			Dingras, Marcos	1,004	1	3	70 - 520	38	10 - 64		
3		0103	Madonigan Area			Ilocos Norte	Ilocos Norte	Marcos, Dingras	2,933	1	8	170 - 1,450	124	11 - 41
4		0104	Solsona Area					Solsona, Dingras	1,340	1	5	40 - 290	57	9 - 17
5		0105	Labugaon Area					Solsona	1,470	1	14	10 - 860	41	7 - 173
6		0106	Papa Area					Marcos, Banna, Nueva Era	2,337	1	3	250 - 700	101	15 - 17
7	0107	Sta. Lucia-Candon	Ilocos Sur	Ilocos Sur	Sta Lucia, Sta Cruz, Candon City	1,423	1	8	120 - 430	61	16 - 31			
8	0108	Tagudin			Tagudin, Suyo, Sta Cruz	1,253	1	6	220 - 490	60	14 - 33			
9	0109	Ambureyan	La Union	La Union	Sudipen, Luna, Bangar, Balaon	3,289	1	14	80 - 480	138	9 - 28			
10	0110	San Fabian			Manaoag, San Jacinto, San Fabian	2,026	1	7	170 - 530	105	13 - 28			
11	0111	Dumuloc	Pangasinan	Pangasinan	Bugallon	1,232	0	11	180 - 410	99	9 - 21			
Sub-total		4 nos				4 nos		20,593	10	84		892		
12	Region 3	0301	Porac-Gurmain	Pampanga - Bataan	Pampanga	Guagua, Floridablanca, Lubao, Sta Rita	3,126	1	23	40 - 480	125	11 - 36		
Sub-total		1 no				1 no		3,126	1	23		125		
13	Region 4	0401	Sta. Cruz	Quezon - Marikina	Quezon	Calauan, Victoria, Liliw, Nagcatian, Pila, Sta Cruz	2,185	0	5	160 - 950	50	34 - 80		
14		0402	Dumacaa			Tayabas City, Lucena City, Pagbilao	1,839	0	8	90 - 280	239	3 - 9		
15		0403	Malagao			Aborian, Narra	3,014	1	22	20 - 460	219	4 - 24		
Sub-total		3 nos				3 nos		7,038	1	35		508		
16	Region 6	0601	Suague	Iloilo - Guimaras	Iloilo	Mina, Pototan, New Lucena	2,454	0	7	50 - 600	61	10 - 81		
17		0602	Aganan			Iloilo City, Oton, Sta Barbara, San Miguel, Pavia	4,467	1	8	350 - 530	45	38 - 104		
18		0603	Sta. Barbara			Leganes, Pavia, Sta Barbara, Iloilo City	3,062	1	4	690 - 840	55	42 - 76		
19		0604	Pangipipan			Himamaylan City, Binabagan	1,169	1	6	40 - 310	50	10 - 28		
Sub-total		2 nos		2 nos		11,152	3	25		211				
20	Region 10	1001	Manupali	Bukidnon	Bukidnon	Lantapan, Malaybalay City, Valencia City	1,800	1	8	150 - 1,060	39	42 - 353		
21		1002	Pulangui			Malaybalay City, Quezon, Valencia City	10,557	1	43	60 - 860	499	18 - 61		
22		1003	Muleta			Maramag, Don Carlos	1,800	1	8	5 - 580	20	5 - 387		
Sub-total		1 no		1 no		14,157	3	59		558				
23	Region 11	1101	Mal	Davao del Sur	Davao del Sur	Matanao	2,635	1	13	95 - 360	88	21 - 49		
24		1102	Padada			Digos City, Hagonoy	2,520	1	6	80 - 660	137	12 - 15		
Sub-total		1 no		1 no		5,155	2	19		225				
25	Region 12	1201	Lambaysong	Sultan Kudarat	Sultan Kudarat	Gen SK Pendatun, Tacurong City, Lambayong, Pres Querino	11,355	1	39	90 - 940	299	18 - 112		
26		1202	Tacurong (Dumaguili)			Norallah, Tacurong City	1,761	1	8	80 - 520	64	15 - 33		
27		1203	Banga			Suralah, Banga	2,546	1	23	15 - 270	115	13 - 48		
28		1204	Marbel - 1			Koronadal City, Tantiangan	1,856	1	17	35 - 220	117	9 - 36		
29		1205	Marbel - 2			Koronadal City, Lutayan	1,641	1	13	40 - 230	98	14 - 25		
30		1206	Siluy-Buayan			Gen Santos City	1,420	1	10	80 - 200	54	15 - 40		
Sub-total		2 nos		4 nos		20,579	6	110		747				
31	Region 13	1301	Cababaran-Taguibo	Agusan Del Norte - Surigao Del Norte	Agusan del Norte	Cababaran, Romualdez, Ampayon	2,500	1	15	140 - 760	105	19 - 200		
32		1302	Similao			Trento, Bunawan	2,540	1	17	20 - 330	128	6 - 34		
Sub-total		2 nos				2 nos		5,040	2	32		233		
Grand Total		18 nos		16 nos		86,840	28	387		3,499				

Table C-7 Status Type of IA - NIS Management

Status Type of IA-NIA Management by NIS

No.	RIO	IMO	Code	NIS	Status Type
1	1	Ilocos Norte	0101	Laoag Vintar	Type F
2			0102	Dingras	Type F
3			0103	Madongan Area	Type Bc
4			0104	Solsona Area	Type B
5			0105	Labugaon Area	Type D
6			0106	Papa Area	Type G
7		Ilocos Sur	0107	Sta. Lucia - Candon	Type F
8			0108	Tagudin	Type Ba
9		La Union	0109	Amburayan	Type Ba
10		Pangasinan	0110	San Fabian	Type Bb
11			0111	Dumoloc	Type Bb
12	3	Pampanga-Bataan	0301	Porac-Gumain	Type B
13	4	Laguna-Rizal	0401	Sta. Cruz	Type C
14		Quezon-Marinduque	0402	Dumacaa	Type Ba
15		Palawan	0403	Malatgao	Type Aa
16	6	Iloilo-Guimaras	0601	Suage	Type Ba
17			0602	Aganan	Type C
18			0603	Sta. Barbara	Type G
19		Negros Occidental	0604	Pangiplan	Type Ba
20	10	Bukidnon	1001	Manupali	Type F
21			1002	Palangui	Type A
22			1003	Muleta	Type E
23	11	Davao del Sur	1101	Mal	Type A
24			1102	Padada	Type A
25	12	Sultan Kudarat	1201	Lambayaong	Type Bb
26			1202	Tacurong (Dumaguil)	Type B
27		South Cotabato-Sarangani	1203	Banga	Type A
28			1204	Marbel - 1	Type A
29			1205	Marbel - 2	Type A
30			1206	Siluyay Buayan	Type B
31	13	Agusan del Norte-Surigao del Norte	1301	Cabadbaran - Taguibo	Type G
32		Agusan del Norte-Surigao del Sur	1302	Simulao	Type A

Definition of Status Type

Type	Member ship	Ratio of Tenant	Crop Intensity	Collection Efficiency	Crop Yield	Size of TSAG
Type A	Higher	Lower	Medium to High			15 - 40
Type Aa	Higher	Lower	Lower	Medium to High		15 - 40
Type Ab	Higher	Lower	Lower	Lower	Medium to High	15 - 40
Type Ac	Higher	Lower	Higher	Lower	Medium to High	15 - 40
Type B	Medium to High	Medium	Higher	Medium to High	Higher	15 - 40
Type Ba	Medium	Medium to High	Higher	Low	Higher	15 - 40
Type Bb	Medium to High	Medium	Low to Medium	Low	Low to Medium	15 - 40
Type Bc	Medium	Medium	Low	Low	Medium	15 - 40
Type C	High	Medium	High	Low	High	40 - 60
Type D	Medium	Medium	Low	High	Medium	40
Type E	High	Low	High	Low	Medium	80
Type F	No matured status					
Type G	Data and information are not available					

Annex C-1

Salient Features of Irrigators Associations of Short-listed NISs

Annex C-1 (Part-1)

Service Areas of FIAs/IAs and TSGA

Table C1- 11 Service Areas of FIAs/IAs and TSGA of IAs (Region I)

Region No.	NIS	FIA	IA	Location (mailing Address)	Service area (ha)	TSAG (unit)							
						2008	2004	2005	2006	2007	2008	Ave. ha	
6	Papa Area	Papa River IS Federation	14	Istia Dalipay	Lipay, Solsona	2008	2004	2005	2006	2007	2008	Ave. ha	
						Subtotal	14	14	NOT INTEGRATED	39	40	41	36
7	Tagudin	Talucama Federation of IAs, Inc.	1	Zanjera Barachac	Elizabeth, Marcos	Range	10 - 860	17	17	17	17	15	
							253.0	41	41	41	41	17	
							686.0	41	41	41	41	17	
							702.0	43	43	43	43	16	
							1,641.0	101	101	101	101	16	
							250 - 700						
8	Sta Lucia - Candon	Talucama Federation of IAs, Inc.	1	Batian, Tagudin	Batian, Tagudin	Range	250 - 700					15 - 17	
							Revoked registration with SEC.Splitted into small IAs						
							Revoked registration with SEC.Splitted into small IAs						
							Revoked registration with SEC.Splitted into small IAs						
							Revoked registration with SEC.Splitted into small IAs						
							Revoked registration with SEC.Splitted into small IAs						
9	Amburayan	Amburayan RIS Federation of IAs, Inc.	1	Turod, Sudipen, LU	Turod, Sudipen, LU	Range	120 - 430	10	10	12	12	16-31	
							106.0	12	14	16	8	30	
							236.0	12	14	16	8	30	
							124.0	-	-	-	8	5	
							294.0	12	11	11	9	33	
							72.0	-	-	-	2	2	
10	San Fabian	San Fabian, San Jacinto, Manaoag Federation of IAs	1	Palapad, San Fabian	Palapad, San Fabian	Range	80 - 480	7	7	7	7	9-39	
							171.0	10	10	10	10	21	
							210.0	19	19	19	19	28	
							528.0	24	24	24	24	14	
							346.0	15	15	15	15	23	
							347.0	15	15	15	15	23	

Table C1- 11 Service Areas of FIAs/IAs and TSGA of IAs (Region 1)

Region No.	NIS	FIA	IA	Location (mailing Address)	Service area (ha)											TSAG (unit)										
					2008	2004	2005	2006	2007	2008	Ave. ha	2008	2004	2005	2006	2007	2008	Ave. ha								
11				6 Luzviminda-salu	Lobong, San Jacinto, Pang	194.0	15	15	15	15	15	15	15	15	15	15	13									
				7 San Juan BGM	Babasi, Manaog, Pangasinan	230.0	15	15	15	15	15	15	15	15	15	15	15									
				7		2,026.0	105	105	105	105	105	105	105	105	105	105	19									
					Range	170 - 530											13-28									
				1 Lupang Himirang																						
				2 BPT																						
				3 PUB	Portic, Bugallon	209.0	22	22	22	22	22	22	22	22	22	22	10									
				4 Sanlabeco	Laguit Centro, Bugallon	177.0	19	19	19	19	19	19	19	19	19	19	9									
				5 Casal	Cayanga, Bugallon	241.0	21	21	21	21	21	21	21	21	21	21	11									
		Dumuloc	0	6 PHS	Salengcaet, Bugallon	199.0	18	18	18	18	18	18	18	18	18	18	11									
				7 Cabigaan	Poblacion, Bugallon	408.0	19	19	19	19	19	19	19	19	19	19	21									
			8 Apacembulo	Lobong, San Jacinto, Pang																						
			9 BGM	San Juan, San Jacinto																						
			10 San Juan-Babasi	Babasi, Manaog																						
			11 Scientific Farming	San Jose, San Jacinto																						
			11		1,234.0	99	99	99	99	99	99	99	99	99	99	12										
				Range	180 - 410											9-21										
				Subtotal																						

Table C1- 12 Service Areas of FIAs/IAs and TSGA of IAs (Region 3)

Region	No.	NIS	FIA	IA	Location (mailing Address)	Service area (ha)	TSGAG (unit)							
							2008	2004	2005	2006	2007	2008	Ave. ha	
3	1	PORAC-GUMAIN	1*	Pampanga Provincial Federation of IAS	1	FINSA NG FLORIDABLANCA	Poblacion, Floridablanca, Pampanga	132.0	7	7	5	5	5	26
					2	PTMV IA	Valdez, Floridablanca, Pampanga	107.7	5	5	5	3	3	36
					3	MAQUIAPO FIA	Maquiapo, Guagua, Pampanga	58.0	5	5	4	4	2	29
					4	MAGPUNLA IA	Pulungmasle, Guagua, Pampanga	130.9	15	15	4	4	4	33
					5	PLENAB IA	Ebus, Guagua, Pampanga	142.3	6	6	5	5	5	28
					6	LATERAL C-1 IA	Sto. Domingo, Lubao, Pampanga	56.0	3	3	3	3	3	19
					7	BAUGIN IA	SnRoqueDau I, Lubao, Pampanga	66.7	3	3	3	3	3	22
					8	SUMULONG IA	SnRoque Dauli, Lubao, Pampanga	205.4	7	7	6	6	6	34
					9	TAGUMPAY IA	Siran, Guagua, Pampanga	27.3	2	2	2	2	2	14
					10	DAM 10,11-A SOUTH IA	San Antonio, Lubao, Pampanga	176.1	5	5	5	5	5	35
					11	CON 10,11-A NORTH IA	Concepcion, Lubao, Pampanga	130.4	5	5	5	5	5	26
					12	PATANGUE ABC IA	San Jose Apunan, Lubao, Pampanga	224.9	8	7	7	7	7	32
					13	FLJA	San Miguel, Lubao, Pampanga	475.1	22	22	22	22	22	22
					14	CRISPA IA	Sto. Nino, Fblanca, Pampanga	110.4	9	4	4	4	4	28
					15	SPR IA*	San Roque, Fblanca, Pampanga	109.4		5	5	5	5	22
					16	3 PRC FIA	Sta. Rita, Lubao, Pampanga	333.6	13	13	13	13	13	26
					17	PABASAN IA	San Pablo II, Lubao, Pampanga	322.2	16	16	16	16	16	20
					18	BABO PANGULO**	Babo Pangulo, Porac, Pampanga	33.0	3	3	3	3	3	11
					19	ABE-ABE***	Calangain, Lubao, Pampanga	135.4						34
					20	APPIA***	San Pedro Palcarangan, Lubao, Pamp	82.7						21
					21	PALSAJA****	San Pedro Saug, Lubao, Pampanga	60.0						15
					22	CLAIA****	Bodega, Floridablanca, Pampanga	228.0						
					23	GAMPSIA****	Gutad, Floridablanca, Pampanga	314.2						
	Subtotal					3,661.8	134	133	117	115	125	29		
					Range	40 - 480					Range	11-36		

NOTE: * SPR splitted from CRISPA

**Babo Pangulo - CIS converted to NIS

*** Ias from Caulaman RIS but being irrigated by Gumain RIS

**** Ias from Caulaman not operational

* includes national and communal Ias of Pampanga province.

Table C1- 13 Service Areas of FIAs/IAs and TSGA of IAs (Region 4)

Region No.	NIS	FIA	IA	Location (mailing Address)	Service area (ha)	TSAG (unit)							
						2004	2005	2006	2007	2008	Ave. ha		
1	Sta Cruz Division I Lateral A Division II Lateral B Lateral E Lateral C Lateral D Subtotal	No Federation		Sta. Cruz River Irrigation System IA, Inc. (SCRISIA)	950.0	27	27	27	22	22	43		
						2	2	2	2	2	80		
						3	7	7	7	11	35		
						4	-	-	-	-	34		
						5	-	-	-	-	64		
2	Dumacao	No Federation		Brgy. San Miguel, Pila, Laguna	384.0	36.0	36.0	36.0	35.0	50.0	44		
						Range	160 - 950	31	31	31	31	5	
						1	169.0	23	23	25	30	7	
						2	215.0						
						3	274.0	23	23	25	30	9	
						4	277.0	42	42	42	42	7	
						5	90.0	11	11	11	12	6	
						6	165.0	25	25	30	32	5	
						7	170.0	56	56	56	56	3	
						8	1,360.0	211	211	220	233	6	
						Range	90 - 280					Range	3-9
						3	Malatgao	Malatgao - Batang - Batang Federation of IAs		Dumangueta, Narra	455.3	20	20
2	137.0	6	6	6	6							23	
3	145.8	6	6	6	6							24	
4	172.8	18	18	18	18							10	
5	76.0	15	15	15	15							5	
6	138.9	8	8	8	8							17	
7	153.1	9	9	9	9							17	
8	208.8	10	10	10	10							21	
9	97.3	7	7	7	7							14	
10	94.0	7	7	7	7							13	
11	22.0	5	5	5	5							4	
12	170.0	18	18	18	18							9	

Table C1 - 13 Service Areas of FIAs/IAs and TSGA of IAs (Region 4)

Region No.	NIS	FIA	IA	Location (mailing Address)	Service area (ha)		TSAG (unit)					
					2008	2008	2004	2005	2006	2007	2008	Ave. ha
				Plaridel, Aborlan	40.6	5	5	5	5	5	5	8
				Bagong Sikat, Narra	122.3	7	7	7	7	7	7	17
				Malatgao, Narra	116.3	15	15	15	15	15	15	8
				Malatgao, Narra	58.3	3	3	3	3	3	3	19
				Taritien, Narra	116.3	7	7	7	7	7	7	17
				Taritien, Narra	251.1	19	19	19	19	19	19	13
				Elvita, Narra	104.4	7	7	7	7	7	7	15
				Malatgao, Narra	162.5	11	11	11	11	11	11	15
				Malatgao, Narra	92.5	7	7	7	7	7	7	13
				Malatgao, Narra	79.3	9	9	9	9	9	9	9
					3,014.2	219	219	219	219	219	219	14
				Range	20 - 460							5-24
				Subtotal								

5	Mambusao River Irrigation System	0	PASIMPOBA	NIA Compound, Mambusao, Capiz	-	-	-	-	8	8		
			TATAG	NIA Compound, Mambusao, Capiz	-	-	-	-	-	9	-	
			GUINTTU	NIA Compound, Mambusao, Capiz	-	-	-	-	-	6	6	
			BERMABA			6	6	6	6	-	-	
			UNIFAR			14	14	14	14	-	-	
			SIGMAFIA			18	18	18	18	18	-	
			Subtotal			2,336	0	0	0	0	19	50
												47
												Range
												Range

Table CI- 15 Service Areas of FIAs/IAs and TSGA of IAs (Region 10)

Region No.	NIS	FIA	IA	Location (mailing Address)	Service area (ha)	TSAG (unit)							
						2004	2005	2006	2007	2008	Ave. ha		
1	Manupali RIS	BUNACOFIA											
			1	IBUKUMA IA	Kulasihian, Lantapan, Bukidnon	1,054.0	16	16	12	12	12	88	
			2	ABC IA	Bangcud, Malaybalay City	369.0	5	5	4	5	5	74	
			3	CAL IA	Cabangahan, Malaybalay City	309.0	9	9	2	1	1	309	
			4	MABASADA IA	San Carlos, Valencia City	957.0	7	7	3	4	4	239	
			5	IBASUDA IA	Bagontaas, Valencia City	353.0	7	8	3	1	1	353	
			6	COLONIA IA ***	Colonia, Valencia City	292.0	19	19	12	12	6	49	
			7	MAICOL IA	Mailag, Valencia City	250.0					6	42	
			8	HIHAPO IA	Poblacion, Valencia City	811.0	5	5	4	4	4	203	
	Subtotal		8			4,395.0	68	69	40	39	39	113	
						Range	250 - 1,060					Range	42- 353
						***Colonia IA was organized last CY 2008 and registered SEC last April 21, 2009							
			1	1. Sinabuagan FIA, Inc.	Sinabuagan, Valencia City, Bukid	223.2	15	15	15	14	15	15	15
			2	2. Pulangui Riverside FIA, Inc.	San Isidro, Valencia City,	230.5	11	11	11	11	14	16	16
			3	3. Vintar FIA, Inc.	Vintar, Valencia City, Bukidnon	328.1	7	7	7	7	18	18	18
			4	4. Kahaponan FIA, Inc.	Kahaponan, Valencia City,	474.8	19	19	19	19	19	19	25
			5	5. Nabag-o FIA, Inc.	Nabag-o, Valencia City,	795.7	11	11	11	11	11	72	72
			6	6. BLAMCIP IA, Inc.	Batangan, Valencia City,	798.6					18	18	44
			7	7. Batangan Pinatilan (BAPF) IA, Inc.	Batangan, Valencia City,						16		
			8	8. Camiling Malabuaya (CAMA) IA, Inc.	Malabuaya, Batangan, Valencia	289.1					14		21
			9	9. ARFI White House IA, Inc.	Lopez, Tongantongan, Valencia City, Bukidnon		18	18	18	18			
			10	10. Mauswagon Drainage re-use IA, Inc.	Inawaan, Batangan, Valencia City,						14		
			11	11. Tubig Para sa Kalambuan (T.U.P.A.K.) IA, Inc.	Inawaan, Batangan, Valencia City,						7		
			12	12. MACKAPIMA IA, Inc.	Malwak, Pinatilan, Valencia City	521.5	12	12	12	12	12	43	43
			13	13. Maapag Catumbalon IA, Inc.	Maapag, Valencia City	117.9			15	11	15	8	8
			14	14. PINTIRA, Inc.	Pinatilan, Valencia City	187.4	8	8	8	8	8	23	23
			15	15. Katalisayan IA, Inc.	Talisayan, Maapag, Valencia City	58.0	9	9	9	9	9	6	6
			16	16. Tongan-tongan CIA, Inc.	Tongantongan, Valencia City	244.3				16	16	15	15
			17	17. ARFI Lopez Farms Irrigators Assc'nc, Inc.(ALFIA, Inc.)	Lopez, Tongan2x, Val.City, Buk.	152.9				5	10	15	15
			18	18. ARFI Araneta Logong IA, Inc. (AALIA, Inc.)	Logong, Tongan2x, Val.City,	172.4				5	12	14	14
			19	19. Tongan-tongan Rice Bowl IA, Inc.(TRIBIA, Inc.)	Tongantongan, Valencia City	157.5				15	15	10	10
			20	20. Laligan IA, Inc.	Laligan, Val.City, Buk.	532.0	16	16	16	16	16	33	33
			21	21. Paradise G5 IA, Inc.	Paradise, Sinayawan, Val.City.	340.5				12	12	28	28
			22	22. Pridise G5 re-use	Paradise, Sinayawan, Val.City.		27	27	10	10	10		
10	Pulangui	BUNACOFIA	1										

Table C1-15 Service Areas of FIAs/IAs and TSGA of IAs (Region 10)

Region No.	NIS	FIA	IA	Location (mailing Address)	Service area (ha)		TSAG (unit)											
					2008	2008	2004	2005	2006	2007	2008	Ave. ha						
2			23	Paradise G6 IA, Inc.	Paradise, Sinayawan, Val.City,	296.0				12	12	12	12	25				
			24	Kahugpungan IA, Inc.	Sinayawan, Val.City, Buk.	167.4				10	10	10	10	17				
			25	Bayanihan G7 IA, Inc.	Sinayawan, Val.City, Buk.	310.6		47		18	18	18	18	17				
			26	Golden 8 IA, Inc.	Sinayawan, Val.City, Buk.	190.4		47		12	12	12	12	16				
			27	Tuburan IA, Inc.	Caboloan,Bantlag, Val.City, Buk.	190.4				7	7	7	7	7	27			
			28	Mabuhay Dagat Ki-davao IA, Inc. (MAD IA, Inc.)	Mabuhay, Val.City, Buk.	190.4							8			24		
			29	Sto. Nino G-10 IA, Inc.	Mabuhay, Val.City, Buk.	225.3		53					5			28		
			30	Mabuhay Lat.G-11 IA, Inc.	Mabuhay, Val.City, Buk.	185.3					14	14	14	14	14	13		
			31	Kauswagan Lat. G-12 IA, Inc.	Mabuhay, Val.City, Buk.	181.9					14	14	14	14	14	13		
			32	MAD G-13 IA, Inc.	Mabuhay, Val.City, Buk.	91.0										8		
			33	Katipunan IA, Inc.	Katipunan, Daga Ki-	671.0		14			14	14	14	14	14	48		
			34	Sinait Dagat Ki-davao IA, Inc.	Dagat Ki-davao, Valencia City	456.7		14			14	14	14	14	14	33		
			35	Paitan Communal IA, Inc.	Paitan, Quezon, Buk.	274.5		12			12	12	12	12	12	23		
			36	Veterans Plain IA, Inc. (VEP IA, Inc.)	Paitan, Quezon, Buk.	86.9		8			8	8	8	8	8	11		
			37	Kulampion FIA, Inc.	Culampion, Paitan, Quezon, Buk.	854.2		24			24	24	24	24	24	61		
			38	KASS IA, Inc.	Apo Macote, Malaybalay City	658.7										10		
			39	Kalawag New San Roque (KNRSR) IA, Inc.	New San Roque,Apo Macote,											7		
			40	San Martin Simaya (SAS) IA, Inc.	San Martin, Malaybalay City			35								7		
			41	Purais Pajo IA, Inc.	Purais, Simaya, Malaybalay City, Buk.											7		
			42	Mansagkoy Lagis Binalbagan(MALABI)	Binalbagan, Simaya, Malaybalay City											9		
			43	Simaya IA, Inc.	Simaya, Malaybalay City											12		
			Subtotal					10,655.0			376	385	429	499	21	Range 6 - 94		
								Range 60 - 860										
			3	Muleta RIS	BUNACOFIA	1	MBUF IA	San Miguel,maramag, Bukidnon	54.0		2	2	2	2	2	27		
						2	BAM IA	Base Camp, Maramag,Bukidnon	289.8		6	6	6	6	5	58		
						3	PANPI IA	Anahawon, maramag, Bukidnon	86.1		2	2	2	2	2	3	29	
						4	PANADTALAN IA	Panadtalan,Maramag,Bukidnon	5.0		1	1	1	1	1	1	5	
						5	TUBADO IA	Tubigon,Maramag,Bukidnon	55.4		3	3	3	3	3	3	18	
						6	MUSDOL IA	Musuan,Maramag, Bukidnon	574.3		3	3	3	3	3	2	2	287
						7	MCXKL IA	San Ramon, Base Camp	325.0		-	-	-	-	-	-	-	-
			8	DON SISAP IA	Maramag, Bukidnon	225.0		4	4	4	4	4	4	4	56			
			Subtotal					1,614.5		21	21	21	20	20	81	Range 5 - 287		

* Only provincial Federation of IAs for both Communal and National IAs - BUNACOFIA

Table C1-17 Service Areas of FIAs/IAs and TSGA of IAs (Region 12)

Region No.	NIS	FIA	IA	Location (mailing Address)	Service area (ha)	TSAG (unit)					
						2008	2004	2005	2006	2007	2008
			1 PAKAT (organized 2006)	Katitisan, Lambayong, SK	88.0			5	5	5	18
			2 BAKAP (formerly KAPKAT)	Kapingkong, Lambayong, SK	225.2	13	13	10	10	10	23
			3 KAMAKATIA (formerly KAMAKAL)	Matiompong, Lambayong, SK	428.2	15	15	15	15	15	29
			4 KALIMA	Matiompong, Lambayong, SK	147.0	5	5	5	5	5	29
			5 MAKATILPAJA (formerly KAPALIT)	Lilit, Lambayong, SK	368.4	11	11	11	11	11	33
			6 KABLIT	Kabulacan, Lambayong, SK	182.5	4	4	4	4	4	46
			7 MAUDSAKA (area flooded 2008 to date)	Madanding, Lambayong, SK	152.0	5	5	5	5	5	30
			8 TAGA (area flooded 2008 to date)	Taga, Tinumiguez, LSK	213.0	5	5	5	5	5	43
			9 SADLIT (area flooded 2008 to date)	Sadsalan, Lambayong, SK	403.3	10	10	11	11	11	37
			10 UMASA (area flooded 2008 to date)	Udtong, Lambayong, SK	560.9	5	5	5	5	5	112
			11 KAPILAG (formerly KAPLAG)	Kapingkong, Lambayong, SK	334.8	7	7	7	7	7	48
			12 KATTAM	Tambak, Lambayong, SK	452.7	13	13	13	13	13	35
			13 PALUMBE	Palumbe, Lambayong, SK	425.5	10	10	15	15	15	28
			14 PALMADI (merged with PALUMBE IN								
			15 PARADIMA (formerly DIMAPID)	Didiaras, Lambayong, SK	228.4	10	10	10	10	10	23
			16 ID3-POB	Poblacion, Lambayong, SK	220.6	9	9	7	7	7	32
			17 POBLIT	Lilit, Lambayong, SK	225.6	9	9	9	9	9	25
			18 FODIMID	Midtapok, Lambayong, SK	933.3	15	15	11	11	11	85
			19 TORRE POB	Poblacion, Lambayong, SK	270.8	8	8	8	8	8	34
			20 NEECEB (area flooded 2008 to date)	New Cebu, Lambayong, SK	201.0	8	8	8	8	8	25
			21 POBLAN	Poblacion, Lambayong, SK	185.1	5	5	5	5	5	37
			22 FOBSA	Poblacion, Lambayong, SK	216.0	11	11	8	8	8	27
			23 TINUMIGUEZ (area flooded 2008 to date)	Tinumiguez, Lambayong, SK	518.1	12	12	12	12	12	43
			24 TICAZEN (area flooded 2008 to date)	Caridad, Lambayong, SK	200.4	6	6	6	6	6	33
			25 MATUNGKULUPID	Mamali, Lambayong, SK	450.0	10	10	10	10	10	45
			26 LAGAO CREEK	Didiaras, Lambayong, SK	490.2	7	7	7	7	7	70
			27 DIMATITIL	Mamali, Lambayong, SK	117.6	5	5	5	5	5	24
			28 BILTUM	Tumiao, Lambayong, SK	153.4	7	7	5	5	5	31
			29 MASANTU	Tumiao, Lambayong, SK	413.1	8	8	6	6	6	69
			30 BILUMAL (formerly BILMA)	Bilumin Lambayong, SK	196.2	4	4	5	5	5	39
			31 MABIL	Malgaya, Lambayong, SK	159.8	4	4	4	4	4	40
			32 KASALEGAN	Ledesma, Tacurong City	469.7	12	12	12	12	12	39
			33 SASAKA	San Antonio, Tacurong City	158.9	5	5	5	5	5	32
			34 BANGGASAN	San Rafael, Tacurong City	197.6	6	6	6	6	6	33
			35 KONGAO	Kapingkong, Lambayong, SK	285.1	9	9	9	9	9	32

Lambayong Federation of IAs, Inc.

LAMBAYONG RIS 1

Table C1- 17 Service Areas of FIAs/IAs and TSGA of IAs (Region 12)

Region No.	NIS	FIA	IA	Location (mailing Address)	Service area (ha)	TSAG (unit)									
						2008	2004	2005	2006	2007	2008	Ave. ha			
2	TACURONG IS	Tacurong Federation of IAs, Inc.	36	SITIO BAG-O	EJC Montilla, Tacurong City	188.1	5	5	5	5	5	5	38		
			37	BAHE	AH Eliseo, Tacurong City	143.6	5	5	5	5	5	5	29		
			38	BUCATILL	Tina, Tacurong City	551.6	14	14	14	14	14	14	39		
			39	TUMIAO-MAMALI (+2007)	Tumiao, Lambayong, SK	188.0					6	6	31		
			39			11,343.4	297	297	293	299	299	299	38		
							Range	90 - 940					Range	18 - 122	
			1	SMST IA	Baras, Tacurong City	521.9	17	17	17	17	17	17	31		
			2	LANUPKAT (Formerly DPLK IA)	Lancheta, Tacurong City	199.4	17	17	15	7	7	7	28		
3	TAGDUM IA	Rajah Muda, Tacurong City	76.2	3	3	5	5	5	5	15					
4	PAMFRESA IA	Rajah Muda, Tacurong City	147.8	7	7	6	6	6	6	25					
5	BULIGANAY IA	Rajah Muda, Tacurong City	188.9	6	6	6	6	6	6	31					
6	RAJA MUDA	Rajah Muda, Tacurong City	190.3	8	8	9	9	9	9	21					
7	FAPP IA	Rajah Muda, Tacurong City	196.6	6	6	6	6	6	6	33					
8	PASSIDUM (+2008)	New Passi, Tacurong City	240.0					8	8	30					
					1,761.2	64	64	64	64	64	28				
					Range	80 - 520				Range	15 - 33				
3	BANGA RIS	MABA RIS FEDEATION OF IAS, INC.	1	Damsite (Banga RIS) IA (formerly	Reyes, Banga, South Cotabato	50.9	3	3	3	3	3	13			
			2	Sunshine IA (formerly PUNONG GRANDE	Punong Grande, Banga, So. Cot.	57.2	3	3	3	3	3	14			
			3	Highway-Katilingban IA (formerly	Bo. 3, Banga, South Cotabato	57.7	3	3	3	3	3	19			
			4	UPSTREAM	Bo. 3, Banga, South Cotabato	92.0	3	3	3	3	3	31			
			5	Country Folks IA (formerly	Bo. 3, Banga, South Cotabato	93.1	3	3	3	3	3	23			
			6	MAHAMUNGAYAON	Bo. 3, Banga, South Cotabato	93.4	3	3	3	3	3	23			
			7	Adventurist IA (formerly BNNWMP)	Sn. Miguel, Norala, So. Cot.	159.1	4	4	4	4	4	40			
			8	BIKOLANO-ILONGO	Sn. Miguel, Norala, So. Cot.	70.5	2	2	2	2	2	23			
			9	MABAKUD	Sn. Miguel, Norala, So. Cot.	148.8	4	4	4	4	4	37			
			10	Purok Mabuhay FIA	San Miguel, Norala, South Cotabato	15.1	1	1	1	1	1	15			
			11	Purok Magsaysay Katipunan IA (formerly	Katipunan, Sto. Niño, So. Cot.	117.0	10	10	10	8	8	15			
			12	Midstream IA (formerly SIKATFIA)	Katipunan, Sto. Niño, So. Cot.	249.1	12	12	12	18	18	14			
			13	SCMM IA (formerly LEFIA)	Katipunan, Sto. Niño, So. Cot.	149.3	5	5	5	5	5	30			
			14	Hinumayan IA (formerly KALOJAFIA)	Lopez Jaena, Norala, So. Cot.	156.8	10	10	10	10	10	16			
			15	San Miguel Katipunan (SMK)	Sn. Miguel, Norala, So. Cot.	138.1	6	6	6	6	6	23			
			16	Katipunan-Osmefa IA, Inc	Esperanza, Norala, So. Cot.										
			17	Mainawaon-Esperanza Poblacion IA	Norala, South Cotabato	53.8	3	3	3	3	3	18			
			18	MAHINUN-ANON	Lopez Jaena, Norala, So. Cot.	76.4	3	3	3	3	3	19			
			19	ROMALIA (-2008)	Lopez Jaena, Norala, So. Cot.	78.6	3	3	3	2	2	39			
			20	Rflows IA (formerly LIBIA)	Esperanza, Norala, So. Cot.	144.1	4	4	4	3	3	48			
			21	Illeg IA (formerly GELIA)	Esperanza, Norala, So. Cot.	97.2	3	3	3	3	3	32			
			22	Green Thumb IA	Lopez Jaena, Norala, So. Cot.	182.0	9	9	9	9	9	20			

Table CI-17 Service Areas of FIAs/IAs and TSGA of IAs (Region 12)

Region No.	NIS	FIA	IA	Location (mailing Address)	Service area (ha)	TSAG (unit)													
						2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018	Ave. ha		
4	MARBEL 1 RIS	MABA RIS FEDEATION OF IAS, INC.	23	Dawn IA (formerly GUJFIA)	Guinsang-an, Sto. Niño, So. Cot.	266.0	10	10	10	10	10	10	10	10	10	10	27		
			23				2,546.1	107	107	107	107	107	107	107	107	107	107	22	
								Range										13 - 48	
			1	Morning Star IA (formerly PAGASA IA)	Carpenter Hill, Koronadal City	122.8	7	7	7	7	7	7	7	7	7	7	7	7	18
			2	Ricefields IA (formerly Matutum FIA)	Carpenter Hill, Koronadal City	34.9	4	4	4	4	4	4	4	4	4	4	4	4	9
			3	Sanisca IA (formerly San Isidro-Guadalupe)	San Isidro, Koronadal City	104.7	5	5	5	5	5	5	5	5	5	5	5	5	12
			4	Modern FIA (-2008)	San Isidro, Koronadal City	169.8	5	5	5	5	5	5	5	5	5	5	5	5	19
			5	Barangay Zone III IA (formerly Extension)	Zone III, Koronadal City	39.1	3	3	3	3	3	3	3	3	3	3	3	3	13
			6	Light Bringers IA (formerly Eastern Sto)	Sto Niño, Koronadal City	85.3	6	6	6	6	6	6	6	6	6	6	6	6	12
			7	Kaugnayan-Cinderella IA (formerly Lateral)	G. P. Santos, Koronadal City	62.2	7	7	7	7	7	7	7	7	7	7	7	7	9
			8	Magic Flower IA (EVERLASTING IA)	G. P. Santos, Koronadal City	127.0	12	12	12	12	12	12	12	12	12	12	12	12	11
			9	LAMSACA IA (formerly NESACA IA)	New Lambunao, Tantaran, So. Cot.	212.0	15	15	15	15	15	15	15	15	15	15	15	15	19
			10	Lateral F FIALAFFIA	Caloocan, Koronadal City	134.5	7	7	7	7	7	7	7	7	7	7	7	7	19
			11	Double GI IA (formerly LAGFIA IA)	Caloocan, Koronadal City	89.4	7	7	7	7	7	7	7	7	7	7	7	7	10
			12	New Lambunao IA (formerly LANIA)	New Lambunao, Tantaran, So. Cot.	129.7	5	5	5	5	5	5	5	5	5	5	5	5	32
			13	Parbangon IA (formerly BANNAWAGIA)	New Lambunao, Tantaran, So. Cot.	162.1	6	6	6	6	6	6	6	6	6	6	6	6	15
			14	Cabuling-New Lambunao IA (UNIFIA)	Cabuling, Tantaran, So. Cot.	137.8	7	7	7	7	7	7	7	7	7	7	7	7	23
15	DAGYAW IA	Cabuling, Tantaran, So. Cot.	109.1	3	3	3	3	3	3	3	3	3	3	3	3	36			
16	PAGMAGE IA (formerly MAHARLIKA)	Cabuling, Tantaran, So. Cot.	107.4	7	7	7	7	7	7	7	7	7	7	7	7	15			
17	KANO-PALAYAN (+2007)		36.9													37			
	Subtotal		1,864.6	106	100	106	106	106	106	106	106	106	106	106	106	117	16		
			Range													9 - 37			
5	MARBEL 2 RIS	MABA RIS FEDEATION OF IAS, INC.	1	Handum, IA (formerly NAFIA)	Nannama, Koronadal City	82.6	4	4	4	4	4	4	4	4	4	4	21		
			2	Palay-Gulayan IA (formerly AVIA)	Nannama, Koronadal City	157.0	11	11	11	11	11	11	11	11	11	11	11	14	
			3	MABINUNGAHON	Avanceña, Koronadal City	93.5	5	5	5	5	5	5	5	5	5	5	5	19	
			4	Mariever IA (formerly ROTAVA IA)	San Jose, Koronadal City	95.4	6	6	6	6	6	6	6	6	6	6	6	14	
			5	Lenticels IA (Formerly SIRIA)	San Jose, Koronadal City	182.9	14	14	14	14	14	14	14	14	14	14	14	13	
			6	San Gregorio-Blingkong IA (formerly	Blingkong, Lutayan, S. K.	41.7	3	3	3	3	3	3	3	3	3	3	3	14	
			7	FLAGLEAF	Avanceña, Koronadal City	85.2	5	5	5	5	5	5	5	5	5	5	5	17	
			8	Sagod IA (formerly TLAFIA)	Avanceña, Koronadal City	107.9	7	7	7	7	7	7	7	7	7	7	7	15	
			9	N & M IA (formerly SULKUSOCO IA)	Manili, Lutayan, S. K.	197.7	28	28	28	28	28	28	28	28	28	28	28	18	
			10	Last Leaf IA (formerly MAFIRAS IA)	Manili, Lutayan, S. K.	177.1	10	10	10	10	10	10	10	10	10	10	10	16	
			11	Blingkong-Tannag IA (formerly TABLIA)	Blingkong, Lutayan, S. K.	85.0	6	6	6	6	6	6	6	6	6	6	6	21	
			12	DEW DROPS	Lutayan, Sultan Kudarat	228.7	10	10	10	10	10	10	10	10	10	10	10	9	25
			13	Nasalun-at IA (formerly NAPLAN IA)	Tannag, Lutayan, S. K.	105.7	6	6	6	6	6	6	6	6	6	6	6	7	15
	Subtotal		1,640.5	115	115	115	115	115	115	115	115	115	115	115	98	17			
			Range													13-25			
			1 Katagawan-Sagana FIA	Katagawan, GSC	200.0	5	5	5	5	5	5	5	5	5	5	40			

Table CI-17 Service Areas of FIAs/IAs and TSGA of IAs (Region 12)

Region No.	FIA	NIS	IA	Location (mailing Address)	Service area (ha)	TSAG (unit)						
						2004	2005	2006	2007	2008	Ave. ha	
6	SILBRIS FIA, Inc.	LUAY-BUAYAN R I	2	Nursery FIA	Lagao, GSC	110.0	9	9	9	9	5	22
			3	Napal-Conel Road FIA	Lagao, GSC	170.0	5	5	5	3	3	57
			4	Matatag FIA	San Isidro, GSC	120.0	3	3	3	3	3	40
			5	General Santos FIA	San Isidro, GSC	180.0	6	6	6	6	7	26
			6	Lagao-Bula IA (formerly Golden Grain FIA)	Lagao, GSC	90.0	7	7	7	7	3	30
			7	Green Field FIA (formerly Gintong Ani FIA)	Baluan, GSC	160.0	6	6	6	6	6	27
			8	Baluan-Lagao FIA	Baluan, GSC	80.0	3	3	3	3	4	20
			9	Baluan-Buayan FIA	Baluan, GSC	110.0	5	5	5	5	5	22
			10	Buayan RIS FIA	Liogaya, GSC	200.0	17	17	17	17	13	15
			10	Subtotal			1,420.0	66	66	66	64	54
				Range	80 - 200				Range	15-40		

Annex C-1 (Part-2)

IA Profile, O&M Performance and Functionality in Region 1

Table C1-211-1 Summary of IA Profile (Region 1)

Region No.	NIS	IA	Location (mailing Address)	Service area (ha)				TSAG (unit)				Reactivation of TSAG		SEC Registration Date	Farmers / Benef. in Service	IA member (2)					Membership (%)							
				2008	2004	2005	2006	2007	2008	Ave. ha	Date	2004	2005			2006	2007	2008	2004	2005	2006	2007	2008					
6	Papa Area	Zanjera Barachac	Elizabeth, Marcos	253.0	17	17	17	17	17	17	17	17	15	April 27, 1988	187	128	128	128	129	129	129	68	68	68	68	69		
		Sco. Niño Tababagan	Sco. Niño, Espiritu	686.0	41	41	41	41	41	41	41	17	17	17	July 25, 1977	507	409	409	409	409	409	409	81	81	81	81	81	
		Zanjera Kagas-Santiago	Tabucoo, Marcos	702.0	43	43	43	43	43	43	43	16	16	16	May 12, 1988	622	376	376	376	376	376	376	60	60	60	60	60	
	Subtotal			1,641.0	101	101	101	101	101	101	16	16		1,316	913	913	913	914	914	914	70	70	70	70	70			
7	Tagudin																											
		Nameama & Mannaion	Bano-an, Tagudin												February 7, 1991													
		Division III-A (Tampugo)	Tampugo, Tagudin												March 14, 1991													
		Lugarba BLT	Tagudin, Ilocos Sur	491.4	9	9	15	15	33	Nov. 2006			985	200	250	280	350	448	448	448	20	25	28	36	45			
		Western Div III-B	Tagudin, Ilocos Sur	270.1	7	7	7	15	18	Sept. 2006			786	150	200	250	300	326	326	326	19	25	32	38	41			
		4B's Tampugo	Tagudin, Ilocos Sur	258.0	9	9	9	15	17	Oct. 2006			430	200	250	300	338	338	338	338	47	58	70	79	79			
		Gapaseca	Sta. Lucia, Ilocos Sur	216.5	10	10	10	15	14	Oct. 2006			389	100	150	200	230	231	231	231	26	39	51	59	59			
	Subtotal			1,236.0	35	35	35	60	60	21			2,590	650	850	1,030	1,218	1,343	1,343	28	37	45	53	52				
8	Sta Lucia - Candon																											
				Revoked registration with SEC. Split into small IAs																								
				Revoked registration with SEC. Split into small IAs																								
		Concepcion, Sta. Lucia																										
		Ronda, Sta. Lucia																										
		Sta. Lucia-Candon	Sabanuan, Sta. Lucia	260.0	Not Applicable	14	14	19	Jan. 2007			549	Not Applicable	445	445	445	445	445	445	445	Not Applicable	81	81	81	81	81		
		Bukanagan	Sta. Lucia, Ilocos Sur	426.6	Not Applicable	16	16	27	Jan. 2007			923	Not Applicable	748	748	748	748	748	748	748	Not Applicable	81	81	81	81	81		
		Shamar Ti Laud	Sta. Lucia, Ilocos Sur	276.1	n/a	n/a	n/a	n/a	June 2007			817	Not Applicable	662	662	662	662	662	662	662	Not Applicable	81	81	81	81	81		
		Saluvc	Sta. Lucia, Ilocos Sur	347.0	n/a	n/a	n/a	n/a	June 2007			925	Not Applicable	749	749	749	749	749	749	749	Not Applicable	81	81	81	81	81		
		Baggok Ti Daya	Candon, Ilocos Sur	114.0	n/a	n/a	n/a	n/a	June 2007			118	Not Applicable	118	118	118	118	118	118	118	Not Applicable	100	100	100	100	100		
		Rosana	Sta. Lucia, Ilocos Sur	1,423.6								3,333		2,722	2,722	2,722	2,722	2,722	2,722									
	Subtotal																											
9	Amburayan																											
				Revoked registration with SEC. Split into small IAs																								
				Revoked registration with SEC. Split into small IAs																								
				Revoked registration with SEC. Split into small IAs																								
				Lat A Upstream	Turod, Sudipen, LU	106.0	10	10	12	12	12	9	2008		118	88	88	92	102	102	102	75	75	78	86	86		
				Basu ni Ambu	Ma. Cristina, Bangar, LU	236.0	12	14	16	8	8	30	2008		247	165	180	230	230	230	230	67	73	93	93	93		
				Agdeppa (AGNA)	Agdeppa, Bangar, LU	124.0	-	-	-	8	5	25	2008		205	0	0	0	0	0	0	88					43	
				Bangar Lat C	San Blas, Bangar, LU	294.0	12	11	11	9	9	33	2008		410	285	350	350	376	376	376	70	85	85	92	92		
				Kalingat	Silo Kalingat, Bangar, LU	72.0	-	-	-	2	2	36	2008		105	0	0	0	0	0	0	68					40	
				Sarioana	Sablut, Balaocan, LU	304.0	10	12	12	14	14	22	2008		498	230	230	288	288	288	322	46	46	58	58	65		
				Panitar-Cantoria	Cantoria No. 4 Luna, La Union	235.0	8	10	12	12	12	20	2008		904	298	350	350	388	388	495	33	39	39	43	55		
				Arapa-ap	Barangbong, Luna, La Union	144.0	10	10	10	10	12	12	2008		746	192	220	220	258	307	307	26	29	29	35	41		
				Cabua-an	Cabuan, Balaocan, LU	308.0	6	6	8	8	8	39	2008		760	400	400	400	467	467	467	53	53	53	61	61		
				Naglaona	Nagrebcan, Luna, La Union	193.0	6	6	8	8	8	24	2008		505	300	361	361	378	394	394	59	71	71	75	78		
				Luisinis	Sinapangan Norte, Bangar	385.0	14	14	14	14	14	28	2008		1,236	453	671	671	671	671	671	37	54	54	54	54		
		Maliyo	Busel-busel, Luna	310.0	10	10	10	10	31	2008		668	450	450	450	450	450	450	67	67	67	67	67	67				
		Risital	Rising, Bangar	476.0	10	12	12	12	14	34	2008		470	322	394	394	394	394	394	69	84	84	84	84				
		United Farmers	Napaset, Luna	102.0	8	8	8	10	10	10	2008		398	235	235	235	235	235	235	59	59	59	59	59				
	Subtotal			3,289.0	116	123	133	137	138	24		7,270	3,418	3,929	4,041	4,279	4,599	4,599	55	61	64	65	63					
10	San Fabian																											
				Palapad, San Fabian																								
				Tomeeng, San Fabian																								
				Baro-Nga-Nammana																								
				BAMA																								
				Aramal-Careenan																								
				MOLALOS																								
				Luzviminda-salu																								
				Lobong, San Jacinto, Pang																								
				San Juan BGM																								
	Subtotal			2,026.0	105	105	105	105	105	19		1,637	1,372	1,051	1,284	1,204	1,375	1,375	86	60	79	76	86					

Table C1-212 - 1 Summary of IA O & M Performance (Region 1)

Region No.	NIS	IA	Crop Season	Service area (ha)	Program area (ha)								Irrigated and planted area (ha)								Benefited Area (ha)							
					2008	2004	2005	2006	2007	2008	2008	Ratio	2004	2005	2006	2007	2008	2008	Ratio	2004	2005	2006	2007	2008				
			Dry	3,289.0	2,500.0	2,500.0	2,500.0	2,500.0	2,500.0	2,513.0	76	2,153.0	2,097.0	2,229.0	2,497.0	2,513.0	76	2,153.0	2,097.0	2,229.0	2,497.0	2,513.0						
10	San Fabian																											
		Bagong Sinag	Wet	171.0	96.2	77.9	79.8	113.8	48.3	28	96.2		79.8	113.7	48.3	28	96.2		79.8	113.7	48.3	48.3						
			Dry	171.0	83.0	79.8	79.8	76.1	81.2	47	83.0	77.9	79.8	76.1	81.2	47	83.0	77.9	79.8	76.1	81.2	81.2						
		Baro-Nga-Namnama	Wet	210.0	136.3	130.8	131.9	139.8	92.8	44	136.3		131.9	139.8	92.8	44	136.3		131.9	139.8	92.8	92.8						
			Dry	210.0	141.2	131.9	131.9	133.3	137.0	65	141.2	130.8	131.9	133.4	137.0	65	141.2	130.8	131.9	133.4	137.0	137.0						
		BAMA	Wet	528.0	223.5	225.4	227.3	224.0	139.1	26	223.5	227.3	227.3	224.0	139.1	26	223.5	227.3	227.3	224.0	139.1	139.1						
			Dry	528.0	224.9	225.4	227.3	219.0	227.8	43	224.9	225.4	227.3	219.0	227.8	43	224.9	225.4	227.3	219.0	227.8	227.8						
		Aramal-Careenan	Wet	346.0	241.8	155.9	157.3	242.9	104.3	30	241.8		157.3	242.9	104.3	30	241.8		157.3	242.9	104.3	104.3						
			Dry	346.0	151.2		157.3	163.3	182.3	53	151.2	155.9	157.3	163.3	182.3	53	151.2	155.9	157.3	163.3	182.3	182.3						
		MOLALOS	Wet	347.0			244.9	310.9	267.7	77			244.9	310.9	267.7	77			244.9	310.9	267.7	267.7						
			Dry	347.0			244.9	246.1	280.6	81			244.9	246.1	280.6	81			244.9	246.1	280.6	280.6						
		Luzviminda-salu	Wet	194.0			122.7	190.8	105.3	54			122.7	190.8	105.3	54			122.7	190.8	105.3	105.3						
			Dry	194.0			122.7	123.8	146.3	75			122.7	123.8	146.3	75			122.7	123.8	146.3	146.3						
		San Juan BGM	Wet	230.0			73.0	249.9	56.3	24			73.0	249.9	56.3	24			73.0	249.9	56.3	56.3						
			Dry	230.0			73.0	75.7	79.8	35			73.0	75.7	79.8	35			73.0	75.7	79.8	79.8						
		Subtotal	Wet	2,026.0	697.8	590.0	1,036.9	1,472.1	813.9	40	697.8	0.0	1,036.9	1,472.0	813.9	40	697.8	0.0	1,036.9	1,472.0	813.9	813.9						
			Dry	2,026.0	600.2	0.0	1,036.9	1,037.2	1,135.0	56	600.2	590.0	1,036.9	1,037.2	1,135.0	56	600.2	590.0	1,036.9	1,037.2	1,135.0	1,135.0						
11	Dumaleoc																											
		Lupang Himirang	Wet																									
			Dry																									
		BPT	Wet																									
			Dry																									
		PUB	Wet	209.0	144.3	118.4	79.4	179.2	141.0	67	144.3		79.4	129.2	141.0	67	144.3		79.4	129.2	141.0	141.0						
			Dry	209.0	32.1		79.4	102.8	100.3	48	32.1	118.4	79.4	102.8	100.3	48	32.1	118.4	79.4	102.8	100.3	100.3						
		Sanlabeco	Wet	177.0	124.7	107.1	104.2	110.2	116.8	66	124.7		104.2	110.2	116.8	66	124.7		104.2	110.2	116.8	116.8						
			Dry	177.0	90.3		104.2	103.7	116.0	66	90.3	107.1	104.2	103.7	116.0	66	90.3	107.1	104.2	103.7	116.0	116.0						
		Casal	Wet	241.0	154.5	78.5	140.1	141.2	153.6	64	154.5		140.1	141.2	153.6	64	154.5		140.1	141.2	153.6	153.6						
			Dry	241.0	89.7		140.1	109.4	140.8	58	89.7	78.5	140.1	109.4	140.8	58	89.7	78.5	140.1	109.4	140.8	140.8						
		PHS	Wet	199.0	82.7			127.7	94.2	47	82.7			127.7	94.2	47	82.7			127.7	94.2	94.2						
			Dry	199.0																								
		Cabigaan	Wet	408.0			256.0	406.0	406.0	100			256.0	406.0	406.0	100			256.0	406.0	406.0	406.0						
			Dry	408.0			256.0	256.0	256.0	63			256.0	256.0	256.0	63			256.0	256.0	256.0	256.0						
		Apacembulo	Wet								88.7																	
			Dry									52.0																
		BGM	Wet								197.6																	
			Dry									88.4																
		San Juan-Babast	Wet								133.9																	
			Dry									40.4																
		Scientific Farming	Wet								328.4																	
			Dry								239.8																	
		Subtotal	Wet	1,234.0	506.1	304.0	579.6	964.3	911.6	74	506.1	0.0	579.6	914.3	911.6	74	506.1	0.0	579.6	914.3	914.3	911.6						
			Dry	1,234.0	212.1	0.0	579.6	571.8	613.1	50	212.1	721.7	579.6	571.8	613.1	50	212.1	304.0	579.6	571.8	613.1	613.1						

Table CI-212 - 2 Summary of IA O & M Performance (Region 1)

Region No.	NIS	IA	Crop Season	Service area (ha)	Crop Intensity (%)					Productivity (Yield) of Paddy (cav./ha)					Collection Efficiency of ISF, (Current Account Base)								
					2004	2005	2006	2007	2008	Average	2004	2005	2006	2007	2008	Average	2004	2005	2006	2007	2008	Average	
		SL1 Series Area	Dry	287.0	47.0	0.0	0.0	0.0	0.0	80	2004	2005	2006	2007	2008	Average	2004	2005	2006	2007	2008	Average	
			Wet	567.0																			
		Subtotal	Wet	1,340.0	59.3	48.3	92.3	91.5	88.8	63.0	70	69	76	78	81	75	0	0	0	0	0	0	
			Dry	1,340.0	67.4	19.2	85.5	84.5	76.8	70.0	80	77	73	74	73	76	65	65	73	92	78	63	76
5	Labugaon Area	Zanjera de Matayag	Wet	75.0	68.0	67.0	95.0	95.0	95.0	84.0	70	70	78	80	82	76	71.0	67.0	87.0	88.0	112.0	85.0	
			Dry	75.0	95.0	40.0	98.7	95.0	98.7	85.0	82	81	73	73	74	77	71.0	67.0	87.0	88.0	112.0	85.0	
		Masigpit-Caday-Indit	Wet	5.0	20.0	20.0	20.0	20.0	20.0	20.0	72	71	75	79	80	75							
			Dry	5.0	100.0	20.0	60.0	20.0	14.3	43.0	79	78	70	72	70	74	100.0	100.0	100.0	100.0	100.0	100.0	
		Zanjera Doña Laza	Wet	155.0	56.0	52.0	75.0	74.0	75.0	66.0	70	70	74	78	78	74							
			Dry	155.0	75.0	25.8	88.3	86.0	59.4	67.0	77	78	72	75	72	75	54.0	39.0	125.1	94.0	20.0	66.4	
		Zanjera de Original	Wet	128.0	9.0	8.0	21.0	13.0	21.0	14.0	69	70	74	81	80	75							
			Dry	128.0	45.0	7.8	8.6	10.0	13.3	17.0	75	80	71	71	75	75	33.0	34.0	67.0	73.0	85.0	58.4	
		Darasdas Centro	Wet	29.0	27.0	27.0	93.0	86.0	65.0	71	70	75	79	79	75								
			Dry	29.0	27.0	17.2	31.0	27.0	31.0	27.0	80	80	73	75	73	76	100.0	100.0	100.0	100.0	100.0	100.0	
		Nagkakaysa	Wet	63.0	27.0	25.0	44.0	33.0	43.0	34.0	69	69	75	80	77	74							
			Dry	63.0	81.0	11.1	11.1	17.0	17.5	27.0	76	77	70	75	70	74	34.0	38.0	59.0	68.0	85.0	56.8	
		Sto. Domingo de Talugtog	Wet	21.0	76.0	71.0	90.0	90.0	90.0	83.0	71	70	77	81	80	76							
			Dry	21.0	100.0	30.0	85.0	86.0	95.2	79.0	80	79	71	76	71	75	89.0	91.0	117.9	100.0	100.0	99.6	
		Cacaloma et al	Wet	75.0	37.0	31.0	87.0	77.0	77.0	62.0	70	70	74	79	80	75							
			Dry	75.0	87.0	12.0	89.3	84.0	72.0	69.0	78	79	72	74	72	75	22.0	25.0	79.3	67.0	73.0	53.3	
		Cabulaan Daya	Wet	35.0	60.0	57.0	80.0	68.0	86.0	70.0	71	71	75	80	79	75							
			Dry	35.0	80.0	54.0	91.4	86.0	80.0	78.0	79	78	73	79	73	76	37.0	69.0	100.0	76.0	67.0	69.8	
		Zanjera Kapitan Felix	Wet	21.0	62.0	52.0	76.0	60.0	71.0	70	70	73	78	78	74								
			Dry	21.0	71.0	32.1	90.5	90.0	90.5	75.0	76	81	72	73	72	75	33.0	39.0	48.0	54.0	25.0	39.8	
		Sodin Tina Flame Bearer Federated Zanjeras	Wet	863.0	13.0	13.0	39.0	37.0	39.0	28.0	71	70	73	76	77	73							
			Dry	863.0	57.0	3.1	13.0	14.0	20.3	21.0	77	79	72	73	72	75	15.0	12.0	41.7	7.0	5.0	16.1	
		Ambatuan	Wet																				
			Dry																				
		Zanjera Koman de Patac, Palaniag, Salvatierra	Wet																				
			Dry																				
		Isla Dalipay	Wet																				
			Dry																				
		Subtotal	Wet	607.0	44	41	68	64	68	57	70	75	80	79	75	0	0	0	0	0	0	0	
			Dry	607.0	76	25	65	60	57	57	78	79	72	75	72	57	57	60	88	82	77	73	
		Note: Development cost contribution (DCC) is collected once a year: i.e. during the month of December.																					
		O&M indicators like irrigated area, cropping intensity and collection efficiency are generally low and these may be due to the many damages of major irrigation facilities and structures caused by Typhoon Igan in June 29-July 1, 2004.																					
6	Papa Area	Zanjera Baracbac	Wet	253.0																			
			Dry	253.0	14.6	38.7			36.0	29.8	79	72	72	74	74			8.6				8.6	
		Sto. Niño Tababagan	Wet	686.0																			
			Dry	686.0	6.0	29.8			36.3	24.0	76	70	70	70	72								
		Zanjera Ragas-Santiago	Wet	702.0																			
			Dry	702.0	8.4	32.3			32.9	24.6	78	70	70	70	73							36.2	
		Subtotal	Wet	1,641.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
			Dry	1,641.0	0.0	9.7	33.6	0.0	35.1	26.1	0.0	77.7	70.7	0.0	70.7	73.0	0.0	0.0	22.4	0.0	0.0	22.4	
7	Tagudin	Nannama ti Mamanlon	Wet	Revoked Re	100.0					100.0	71					71.0	27.6					27.6	
			Dry	Revoked Re	67.0	84.6	70.1			73.9	80	82				81.0	34.8	10.9	21.1			22.3	
		Division III-A (Tampugo)	Wet	Revoked Re	76.8				76.8	72						72.0	41.7					41.7	
			Dry	Revoked Re	66.2	73.5	83.0			74.2		82				82.0	40.9	54.1	16.9			37.3	
		Lugarba BLT	Wet	491.4					100.0	100.0			89			89.0		40.3				40.3	
			Dry	491.4					100.0	100.0						90	90.0					47.5	
		Western Div III-B	Wet	270.1					100.3	100.3			88			88.0						47.5	
			Dry	270.1					57.1	57.1			88			88.0						37.2	

Table C1-212 - 2 Summary of IA O & M Performance (Region 1)

Region No.	NIS	IA	Crop Season	Service area (ha)	Crop Intensity (%)								Productivity (Yield) of Paddy (cav./ha)								Collection Efficiency of ISF, (Current Account Base)				
					2004	2005	2006	2007	2008	Average	2004	2005	2006	2007	2008	Average	2004	2005	2006	2007	2008	Average			
			Dry	3,289.0	93	71	73	82	79	79	84	85	86	87	86	86	22	20	23	30	25	25			
10	San Fabian																								
				Bagong Sinag	Wet	171.0	51.0		47.0	67.0	28.0	38.6	79	80	80	45	71	46.0		85.0	76.0	7.0	53.5		
				Barc-Nga-Nammama	Dry	171.0	44.0	41.0	47.0	45.0	44.0	44.8	60	70	81	79	74	32.0	78.0	48.0	36.0	30.0	44.8		
					Wet	210.0	69.0		63.0	67.0	47.0	48.6	80	79	81	79	71	36.0		50.0	104.0	7.0	49.3		
					Dry	210.0	71.0	66.0	63.0	64.0	65.0	65.8	60	70	80	79	74	25.0	63.0	38.0	34.0	28.0	37.6		
					Wet	528.0	41.0		43.0	42.0	26.0	30.4	72	77	80	45	69	50.0		44.0	69.0	12.0	43.8		
					Dry	528.0	42.0	42.0	43.0	42.0	43.0	42.4	60	70	77	80	79	13.0	40.0	47.0	45.0	60.0	41.0		
					Wet	346.0	48.0		45.0	70.0	30.0	38.6	72	77	80	45	69	24.0		23.0	37.0	8.0	23.0		
					Dry	346.0	30.0	31.0	45.0	47.0	53.0	41.2	60	77	80	78	74	19.0	40.0	17.0	30.0	39.0	29.0		
					Wet	347.0			71.0	90.0	77.0	47.6		79	81	60	73			66.0	60.0	17.0	47.7		
			Dry	347.0			71.0	71.0	75.0	43.4		79	81	79	80			45.0	41.0	41.0	42.3				
			Wet	194.0			63.0	98.0	54.0	43.0		78	80	60	73			39.0	71.0	20.0	43.3				
			Dry	194.0			63.0	64.0	75.0	40.4		78	80	79	79			29.0	35.0	30.0	31.3				
			Wet	230.0			32.0	109.0	24.0	33.0		76	81	66	74			39.0	46.0	28.0	37.7				
			Dry	230.0			32.0	33.0	35.0	20.0		76	79	78	78			29.0	36.0	28.0	31.0				
			Wet	2,026.0	52	0	52	78	40	40	76	0	78	80	52	71	39	0	49	66	14	43			
			Dry	2,026.0	47	45	52	52	56	43	60	70	78	80	79	76	22	55	36	37	37	37			
11	Dumuloc																								
				Lupang Hinirang	Wet																				
				BPT	Dry																				
					Wet																				
					Dry																				
					Wet	209.0	64.0		38.0	62.0	68.0	58.0	70	76	81	69	74	35.0		79.0	63.0	24.0	50.3		
					Dry	209.0	8.0	53.0	38.0	49.0	48.0	39.2	60	65	79	78	72	65.0	33.0	44.0	31.0	39.0	42.4		
					Wet	177.0	55.0		59.0	62.0	66.0	60.5	80	78	80	69	77	52.0		69.0	77.0	49.0	61.8		
					Dry	177.0	46.0	47.0	59.0	59.0	66.0	55.4	65	70	80	79	74	49.0	57.0	42.0	39.0	37.0	44.8		
					Wet	241.0	64.0		58.0	59.0	64.0	61.3	75	78	81	70	76	37.0		63.0	64.0	25.0	47.3		
			Dry	241.0	37.0	32.0	58.0	45.0	58.0	46.0	65	70	78	80	79	74	40.0	65.0	35.0	31.0	40.4				
			Wet	199.0	41.0			64.0	47.0	50.7	68		79	71	73	43.0			61.0	34.0	34.5				
			Dry	199.0																					
			Wet	408.0			63.0	100.0	100.0	87.7		78	80	79	78						0.0				
			Dry	408.0			63.0	63.0	63.0	63.0		79	80	79	79						0.0				
			Wet		96.0					75						24.0									
			Dry		61.0	57.0				60	70					14.0									
			Wet		99.0					72						15.0									
			Dry		35.0	44.0				60	65					34.0									
			Wet		74.0					70						19.0									
			Dry		21.0	41.0				60	65					27.0									
			Wet		86.0					75						26.0									
			Dry		63.0	53.0				60	70					16.0									
			Wet	1,234.0	72	0	55	69	69	64	73	0	78	80	70	75	31	0	70	66	33	48			
			Dry	1,234.0	39	47	55	54	59	51	61	68	78	80	79	75	35	40	40	34	36	43			

Table C1-213 Summary of IA Functionality for the Irrigation Service (Region 1)

Region No.	NIS	IA	Average Ratings on Evaluated Functionality of IA					Breakdown of Average Ratings in 2008					Additional	
			Evaluation in 2008					O & M	Organization	Financial	Total	Additional		
			2004	2005	2006	2007	2008							40
		Laureta	69.3	72.5	77.5	82.3	79.1	S	28.1	12.7	21.6	13.3	75.7	3.4
		Puttao-Bagbago Zanjeras Association			76.1				70%	85%	72%	89%	76%	28%
		Subtotal												
		5 Labugaon Area												
		Zanjera de Matayag	82.90	80.19	887.89	87.82	85.25	VS	33.38	14.28	19.34	15.00	82.00	3.25
		Masigpit-Caday-Indit	73.71	72.83	85.24	87.20	82.99	S	34.43	12.86	17.17	14.28	78.74	4.25
		Zanjera Doña Laza	79.47	77.32	80.72	82.73	66.75	F	21.90	14.28	16.86	10.71	63.75	3.00
		Zanjera de Original	71.85	70.96	79.79	85.57	87.13	VS	31.67	14.28	21.93	15.00	82.88	4.25
		Darasdas Centro	72.64	72.24	76.99	79.39	75.94	S	30.49	14.28	15.31	12.86	72.94	3.00
		Nagkakaysa	72.88	71.97	75.84	82.42	83.99	VS	33.90	14.28	19.24	13.57	80.99	3.00
		Sto. Domingo de Talugtog	75.83	75.64	75.83	89.50	93.89	VS	37.77	14.64	23.48	15.00	90.89	3.00
		Cacaloma et al	60.62	59.88	75.78	79.17	70.07	F	27.54	12.14	16.96	11.43	68.07	2.00
		Cabulaan Daya	No data	64.76	65.94	81.83	71.83	S	29.64	8.57	16.34	14.28	68.83	3.00
		Zanjera Kapitan Felix	No data	62.31	62.58	79.91	65.52	F	25.90	8.57	14.48	13.57	62.52	3.00
		Sodin Tina Flame Bearer Federated Zanjeras	57.78	56.08	56.14	65.31	65.15	F	25.90	10.71	15.83	10.71	63.15	2.00
		Ambatuan												
		Zanjera Komon de Patac, Palaniag, Salvatierra												
		Isla Dalipay												
		Subtotal	72.0	69.5	147.5	81.9	77.1	S	30.2	12.6	17.9	13.3	74.1	3.1
					89.6				76%	84%	60%	89%	74%	26%
		6 Papa Area												
		Zanjera Baracbac	84.79		92.99	92.11	89.50	VS	34.43	14.64	21.93	15.00	86.00	3.50
		Sto. Niño Tabiabagan	82.66		88.22	86.04	88.35	VS	31.93	14.64	22.96	13.57	83.10	5.25
		Zanjera Ragas-Santiago	74.14		82.05	75.53	75.76	S	28.92	12.86	19.55	11.43	72.76	3.00
		Subtotal	80.5	0.0	87.8	84.6	84.5	S	31.8	14.0	21.5	13.3	80.6	3.9
					84.3				79%	94%	72%	89%	81%	33%
		7 Tagudin												
		Namnamati Mannalon			92.70									

NO EVALUATION

FUNCTIONALITY NOT EVALUATED - WASHED OUT SERVICE AREA IN 2004

FUNCTIONALITY NOT EVALUATED - DID NOT INTEGRATED TO NIA

FUNCTIONALITY NOT EVALUATED - DID NOT INTEGRATED TO NIA

Table C1- 213 Summary of IA Functionality for the Irrigation Service (Region 1)

Region No.	NIS	IA	Average Ratings on Evaluated Functionality of IA					Evaluation in 2008	Breakdown of Average Ratings in 2008								
			2004	2005	2006	2007	2008		O & M	Organization	Financial	Organizational	Total	Additional			
		Division III-A (Tampugo)			85.37			-									
		Lugarba BLT				95.45	98.12	O	38.03	12.86	25.66	13.57	98.12	8.00			
		Western Div III-B				90.07	95.89	O	35.54	12.86	26.17	13.57	95.89	7.75			
		4B's Tampugo				84.01	96.50	O	37.38	12.86	25.66	12.86	96.50	7.75			
		Gapaseca				77.98	92.38	VS	35.57	12.86	25.34	12.86	92.38	7.75			
		Subtotal	0.0	0.0	89.0	86.9	95.7	O	36.6	12.9	25.7	13.2	95.7	7.8			
					90.5				92%	86%	86%	88%	96%	65%			
		8 Sta Lucia - Candon															
						84.39	-										
		Sta. Lucia (Ilocos Sur)				84.39	-										
		Roquina				81.35	-										
		Sta. Lucia-Candon				74.36	-										
		Bukanegan				77.49	85.98	VS	34.10	11.07	22.45	12.86	85.35	5.50			
		Sinamar Ti Laud				76.22	92.58	VS	36.20	12.14	25.14	12.86	92.38	6.25			
		Saluvic				71.45	83.23	S	30.82	11.07	22.45	12.14	83.23	6.75			
		Baggag Ti Daya				64.76	82.65	S	31.74	11.79	20.48	12.14	82.65	6.50			
		Rosana				74.14	76.22	S	28.85	10.36	18.62	12.14	76.22	6.25			
						0.0	80.0	S	32.3	11.3	21.8	12.4	84.0	6.3			
		Subtotal				79.0			81%	75%	73%	83%	84%	52%			
		9 Amburayan															
		Lat A Upstream				85.88	77.45	79.85	74.81	S	32.06	5.00	21.61	70.81	4.00		
		Basu ni Ambu				75.79	80.99	88.44	80.88	S	30.34	11.96	22.44	76.88	4.00		
		Agdeppa (AGNA)															
		Bangar Lat C				75.74	67.26	75.59	77.98	F	28.41	12.32	21.61	71.98	6.00		
		Kalingat				No rating yet.			68.49	P	25.73	10.89	19.23	65.49	3.00		
		Sarioana				72.24	51.75	72.53	72.53	F	27.24	12.14	20.26	69.28	3.25		
		Pantar-Cantoria				68.94	65.93	58.59	80.45	S	31.03	10.71	21.61	76.20	4.25		
		Arapa-ap				65.85	39.20	77.03	91.32	VS	32.06	13.91	25.12	86.07	5.25		

Table C1- 213 Summary of IA Functionality for the Irrigation Service (Region I)

Region No.	NIS	IA	Average Ratings on Evaluated Functionality of IA								Breakdown of Average Ratings in 2008					
			Evaluation in 2008								O & M	Organization	Financial	Organizational	Total	Additional
			2004	2005	2006	2007	2008	2008	2008	2008						
		Cabua-an		75.34	65.32	71.34	74.43	F	28.27	40	15	30	15	100	12	
		Naglalna		75.34	56.09	71.13	72.42	F	24.70	11.60	20.26	10.36	66.92	5.50		
		Lustris		76.55	76.10	87.82	84.23	S	31.37	12.32	22.44	12.85	78.98	5.25		
		Malyo		76.74	77.03	81.42	79.76	F	28.14	12.50	22.44	11.43	74.51	5.25		
		Risintal		68.21	56.00	81.99	82.04	S	29.30	13.08	23.27	12.14	77.79	4.25		
		United Farmers		88.35	67.94	76.39	77.43	F	28.27	11.97	20.26	11.43	71.93	5.50		
		Subtotal	0.0	75.4	65.1	76.8	78.2	S	29.0	11.6	21.5	11.5	73.5	4.7		
					73.9				72%	77%	72%	77%	74%	39%		
10	San Fabian															
		Bagong Sinag			75.30									0.00		
		Baro-Nga-Nammama			76.80									0.00		
		BAMA			70.90	67.91	51.87	P	27.54	8.66	3.10	10.57	49.87	2.00		
		Aramal-Careman			66.50	66.18	43.93	P	21.71	7.41	3.10	9.71	41.93	2.00		
		MOLALOS			75.50	75.69	75.70	S	30.40	11.33	17.12	12.85	71.70	4.00		
		Luzviminda-salu			77.90	72.44	77.03	S	31.65	10.83	18.41	12.14	73.03	4.00		
		San Juan BGM			71.10	70.36	67.67	F	29.41	10.16	12.82	11.28	63.67	4.00		
		Subtotal	0.0	0.0	73.4	70.5	63.2	P	28.1	9.7	10.9	11.3	60.0	3.2		
					69.1				70%	65%	36%	75%	60%	27%		
11	Dumuloc															
		Lupang Hinirang				74.68	39.65	P	21.25	6.16	3.10	7.14	37.65	2.00		
		BPT				75.30	41.65	P	20.22	8.33	3.10	8.00	39.65	2.00		
		PUB				73.10	66.19	P	24.45	9.00	3.10	8.00	44.55	2.00		
		Sanlabeco				76.80	71.50	P	19.77	7.66	3.10	8.00	38.53	2.00		
		Casal				76.00	74.61	P	26.51	8.00	3.10	11.57	49.18	2.00		
		PHS				66.40	64.11	P	25.71	8.50	3.10	9.00	46.31	2.00		
		Cabigaan				81.30	80.37	P	25.18	10.50	3.10	12.14	50.92	2.00		
		Apacembulo											0.00			

Annex C-1 (Part-2)

IA Profile, O&M Performance and Functionality in Region 3

Table CI-221-2- Summary of IA Profile (Region 3)

Region No.	NIS	IA	Location (mailing Address)	Service area (ha)	TSAG (unit)					Reactivati on of TSAG		Farmers / Benef. in Service	Tenurial Status of Member in Dec. 2008			Ratio of Tenant, Lessor and Amortizing Owner in			IMT Contract in Dec. 2008		Canal Length (km) in Dec. 2008				
					2004	2005	2006	2007	2008	Ave. ha	Date		SEC. Registration Date	FO/PO	ST	L	AO	Total	Type	Latest validity date	Total	Contracted			
3	PORAC-GUMAIN	FINSA NG FLORIDABLANCA	Poblacion, Floridablanca, Pampanga	132.0	7	7	5	5	5	26	2009	1984/11/24	168	20	93	29	26	168	17	27	Type 2	2/5/2005-present	8.12		
		PTMV IA	Valdez, Floridablanca, Pampanga	107.7	5	5	4	3	3	36	2007	1985/6/20	186	18	161	7		186	4	10	Type 2	6-20-05-present	3.65		
		MAQUIAPO FIA	Maquiapo, Guagua, Pampanga	58.0	5	5	4	4	2	29	2009	1983/7/16	105	5	95	5	5	110	86	9	Type 2	7-19-04-present	2.56		
		MAGPUNLA IA	Pulungmasle, Guagua, Pampanga	130.9	15	15	4	4	4	33	2009	1984/5/11	143	8	114	15	6	143	80	10	Type 2	5-28-04-present	5.37		
		PLENABIA	Ebaus, Guagua, Pampanga	142.3	6	6	5	5	5	28	2005	1985/5/12	186	12	163	8	3	186	88	4	Type 2	9/29/2005-present	7.05		
		LATERAL C-1 IA	Sito. Domingo, Lubao, Pampanga	56.0	3	3	3	3	3	19	2009	1993/7/12	62	3	43	2		48	90	4	Type 2	2/1/2005-present	1.70		
		BAUGIN IA	San Roque Dau I, Lubao, Pampanga	66.7	3	3	3	3	3	22	2009	1987/9/28	64	2	51	2	5	60	85	3	Type 2	6-26-05-present	1.72		
		SUMULONG IA	San Roque Dau II, Lubao, Pampanga	205.4	7	7	6	6	6	34	2008	1987/8/25	204	20	161	23		204	79	11	Type 2	1-31-06-present	7.84		
		TAGUMPAY IA	Siran, Guagua, Pampanga	27.3	2	2	2	2	2	14	2005	1984/11/30	40	29		3	32	91	0	9	Type 2		1.50		
		DAM 10,11-A SOUTH IA	San Antonio, Lubao, Pampanga	176.1	5	5	5	5	5	35	2008	1987/1/12	150	18	116	11		145	80	8	Type 2	3/10/2008-present	2.88		
		CON 10,11-A NORTH IA	Concepcion, Lubao, Pampanga	130.4	5	5	5	5	5	26	2008	1987/8/26	114	9	96	4		109	88	4	Type 2	2-1-06-present	2.06		
		PATANGUE ABC IA	San Jose Apuruan, Lubao, Pampanga	224.9	8	7	7	7	7	32	2008	1984/6/7	286	22	244	12	8	286	85	4	Type 2	1-25-06-present	9.06		
		FLA	San Miguel, Lubao, Pampanga	475.1	22	22	22	22	22	22	2008	1985/1/11	605	162	362	56	17	597	61	9	Type 2	10/27/2003-present	12.89		
		CRISPA IA	Sito. Nino, Pblanca, Pampanga	110.4	9	4	4	4	4	28	2009	1991/4/19	150	76	35	4	35	150	23	3	Type 2	10/3/2007-present	5.17		
		SPR IA*	Sita. Rita, Lubao, Pampanga	109.4	5	5	5	5	5	22	2006	2005/4/18	154	48	37	63	6	154	24	41	Type 2	9/13/2005-present	3.84		
		3 PRC FIA	San Roque, Pblanca, Pampanga	335.6	13	13	13	13	13	26	2009	1994/12/20	424	45	159	125	60	389	41	32	Type 2	1/17/2006-present	8.60		
		PABASAN IA	San Pablo II, Lubao, Pampanga	322.2	16	16	16	16	16	20	2009	1991/4/19	305	74	129	40	7	250	52	16	Type 2	8/9/2008-present	9.81		
		BABO PANGULO**	Babo Pangulo, Porac, Pampanga	33.0	3	3	3	3	3	11	2009	2004/7/29	42	30	7		5	42	17	0	Type 2	1/27/2004-present	1.75		
		ABE-ABE***	Calangain, Lubao, Pampanga	135.4						4	2008	1991/7/8	228	74	72	6	49	201	36	3	Type 2				
		APPIA***	San Pedro Palcarangan, Lubao, Pamp	82.7						4	2009	1991/12/3	69	23	56	7		86	65	8	Type 2				
		PALSAIA***	San Pedro Saug, Lubao, Pampanga	60.0						4	15	1994/4/28	66	12	68	2		82	83	2	Type 2				
		CLAIA****	Bodega, Floridablanca, Pampanga	228.0								1990/2/14	228								Type 2				
		GAMPSIA****	Gutad, Floridablanca, Pampanga	314.2									314								Type 2				
		Subtotal		3,661.8	134	133	117	115	125	29			4,293	681	2,291	421	235	3,628	63	12	25			95.6	0.0

NOTE: * SPR splitted from CRISPA

**Babo Pangulo - CIS converted to NIS

*** Ias from Caulaman RIS but being irrigated by Gumain RIS

**** Ias from Caulaman not operational

Table C1-222-1 Summary of IA Profile (Region 3)

Region No.	NIS	IA	Crop Season	Service area (ha)	Program area (ha)								Irrigated and planted area (ha)								Benefited Area (ha)							
					2008	2004	2005	2006	2007	2008	Ratio	2004	2005	2006	2007	2008	Ratio	2004	2005	2006	2007	2008						
3	PORAC - GUMAIN	FINSA NG FILORIDABLANCA	Wet	132.0	111.5	108.2	100.2	120.0	120.0	120.0	91%	102.3	106.1	97.3	84.8	114.8	87%	102.3	95.8	97.3	77.6	114.8						
			Dry	132.0	123.0	106.9	117.3	130.0	130.0	130.0	98%	112.8	108.8	110.7	103.5	114.5	87%	93.4	95.9	110.7	101.8	114.5						
			Wet	107.7	100.0	80.4	95.7	91.1	92.0	85%	91.8	74.8	93.0	97.3	97.2	90%	91.8	78.9	86.3	97.3	97.2							
			Dry	107.7	90.9	90.0	96.9	89.6	95.0	88%	83.4	88.3	91.5	90.3	93.7	87%	73.9	78.6	75.9	87.4	82.8							
			Wet	58.0	71.5	54.3	61.6	58.6	60.0	103%	65.6	53.2	59.8	54.3	54.3	94%	65.6	53.2	59.8	54.3	54.3							
			Dry	58.0	61.1	59.1	60.1	55.5	65.0	112%	56.0	57.9	56.7	55.2	55.8	96%	47.9	51.3	56.7	55.2	55.8							
			Wet	130.9	47.9	55.3	96.1	91.4	85.0	65%	43.9	54.4	93.3	76.6	81.3	62%	43.9	54.4	93.3	73.3	81.3							
			Dry	130.9	66.0	75.8	74.4	68.8	85.0	65%	60.5	74.3	70.2	82.6	96.6	74%	55.8	74.3	70.2	82.6	96.6							
			Wet	142.3	108.9	94.4	32.3	30.7	125.0	88%	99.9	92.6	31.4	113.6	114.8	81%	99.9	92.6	31.4	113.6	114.8							
			Dry	142.3	108.1	113.6	118.8	109.8	125.0	88%	99.2	111.4	112.1	121.2	116.0	82%	91.2	111.4	112.1	121.2	116.0							
			Wet	56.0	61.0	55.6	53.8	51.2	50.0	89%	56.0	54.6	52.2	45.0	54.9	98%	56.0	49.7	41.9	40.6	54.9							
			Dry	56.0	49.1	50.5	52.9	48.9	50.0	89%	45.0	49.5	49.9	40.7	54.0	96%	34.4	37.1	40.2	40.7	54.0							
			Wet	66.7	61.5	53.9	43.9	41.7	49.0	73%	56.5	52.8	42.6	45.7	50.0	75%	56.5	49.4	42.6	43.2	47.1							
			Dry	66.7	54.5	52.5	53.5	49.5	51.0	76%	50.0	51.5	50.5	46.7	51.2	77%	50.0	51.5	50.5	46.7	51.2							
			Wet	205.4	136.6	112.6	142.5	135.6	120.0	58%	125.4	110.4	138.4	145.6	150.6	73%	74.9	79.8	105.5	111.8	106.0							
			Dry	205.4	171.1	182.6	236.9	219.0	222.0	108%	157.0	179.1	223.5	147.5	220.0	107%	124.8	161.5	168.0	94.0	188.5							
			Wet	27.3	22.5	9.9	8.3	7.9	10.0	37%	20.7	9.7	8.1	11.3	11.3	42%	10.7	8.7	11.3	11.3	4.4							
			Dry	27.3	25.4	10.5	11.1	10.2	10.0	37%	23.3	10.3	10.5	12.9	23.3	85%	12.0	26.4	10.5	12.9	18.2							
			Wet	176.1	87.9	95.2	106.3	98.3	105.0	60%	80.6	93.4	100.3	105.9	107.9	61%	75.5	87.4	90.4	82.5	83.7							
			Dry	176.1	124.0	85.0	106.1	98.0	105.0	60%	113.8	83.3	100.1	104.7	112.4	64%	99.4	82.0	90.6	94.7	103.5							
			Wet	130.4	48.8	48.5	78.6	72.6	60.0	46%	44.8	47.5	74.1	72.9	91.5	70%	40.6	47.5	61.8	51.9	56.3							
			Dry	130.4	126.9	65.9	95.3	88.1	75.0	57%	116.4	64.6	89.9	41.0	85.9	66%	101.4	64.6	74.2	29.2	79.5							
			Wet	224.9	148.7	130.2	117.9	109.0	140.0	62%	136.5	127.7	111.2	125.5	159.5	71%	136.5	91.1	111.2	104.8	133.6							
			Dry	224.9	259.4	191.5	206.2	190.6	220.0	98%	238.0	187.8	194.5	151.1	208.9	93%	210.5	158.6	149.2	121.0	189.7							
			Wet	475.1	83.3	170.7	580.1	536.3	100.0	21%	76.4	177.8	547.3	99.5	92.4	19%	21.2	132.6	37.7	73.0	58.3							
			Dry	475.1	398.2	350.2	429.9	397.5	450.0	95%	365.4	364.8	405.6	257.9	398.3	84%	329.4	310.5	373.9	234.6	333.6							
			Wet	110.4	44.1	34.1	233.3	215.7	60.0	54%	40.4	35.5	220.1	74.4	69.7	63%	28.4	29.8	16.5	32.0	49.1							
			Dry	110.4	151.4	34.1	49.6	45.9	110.0	100%	138.9	35.5	46.8	52.9	90.0	82%	84.0	29.8	16.5	32.0	90.0							
			Wet	109.4																								
			Dry	109.4																								
			Wet	333.6	78.9	157.4	530.5	490.5	164.0	49%	72.4	164.0	500.5	175.2	179.6	54%	72.4	164.0	127.2	175.2	53.9							
			Dry	333.6	268.8	190.5	232.2	214.7	220.0	66%	246.6	198.5	219.1	192.4	259.4	78%	246.6	198.5	219.1	192.4	259.4							
			Wet	322.2	9.3	145.1	544.2	503.1	200.0	62%	8.5	151.2	513.4	171.5	105.5	32%	8.5	151.2	148.3	171.5	31.1							
			Dry	322.2	61.4	178.1	290.6	268.6	250.0	78%	56.3	185.5	274.1	204.7	322.2	100%	44.1	185.5	274.1	204.7	322.2							
			Wet	33.0																								
			Dry	33.0																								
			Wet	135.4																								
			Dry	135.4																								
			Wet	82.7																								
			Dry	82.7																								
			Wet	60.0																								
			Dry	60.0																								
			Wet																									
			Dry																									
			Wet																									
			Dry																									
Wet																												
Dry																												
Subtotal				3,119.6	2,122.5	1,572.6	3,063.8	2,866.6	1,671.8	2,394.8	54%	1,121.6	1,583.1	2,907.8	1,605.0	1,816.8	58%	984.5	1,417.9	1,181.3	1,441.7							
				3,119.6	2,139.2	1,988.2	2,365.0	2,208.1	2,394.8	77%	1,962.6	2,004.6	2,231.1	1,832.9	2,651.7	85%	1,698.7	1,868.0	2,061.8	1,662.2	2,524.7							

NOTE: * SPR splitted from CRISPA

**Babo Pangulo - CIS converted to NIS

*** Ias from Caulaman RIS but being irrigated by Gumain RIS

**** Ias from Caulaman not operational

Table C1-223 Summary of IA Functionality for the Irrigation Service (Region 3)

Region No.	NIS	IA	Average Ratings on Evaluated Functionality of IA							Breakdown of Average Ratings in 2008					Additional indicators		
			2004	2005	2006	2007	2008	Evaluation in 2008	O & M	Organization	Financial	Organizational	Total				
3		PORAC-GUMAIN															
	1	BAUGIN	81.5	79.0	82.6	78.1	81.5	S		31.0	13.2	23.9	11.4	79.5		2.0	
	2	CONCEPCION 10-11a-NORTH	91.1	92.7	80.7	78.9	74.5	F		27.7	12.1	16.9	12.9	69.5		5.0	
	3	CRISPA	82.0	75.7	77.4	77.8	82.6	S		35.4	11.1	19.1	15.0	80.6		2.0	
	4	DAM 10, 11-A SOUTH	88.5	85.1	87.3	87.9	79.4	S		29.8	11.4	23.0	12.1	76.4		3.0	
	5	FINSA	98.3	101.3	100.5	100.9	98.5	O		37.7	15.0	26.7	12.9	92.2		6.3	
	6	FLJA	89.3	90.0	88.5	81.4	82.3	S		33.9	12.0	23.3	10.7	79.8		3.5	
	7	LATERAL C-1	83.0	92.0	88.9	88.1	84.6	S		33.5	11.8	25.3	11.4	82.1		2.5	
	8	MAFIA	84.4	76.5	75.9	74.0	89.3	VS		36.9	13.9	25.0	11.4	87.3		2.0	
	9	MAGPUNLA	94.1	79.2	78.5	67.1	65.9	F		28.5	9.6	18.4	6.8	63.4		2.5	
	10	PABASAN	82.2	75.3	72.4	71.3	76.9	S		29.9	10.7	19.7	12.1	72.4		4.5	
	11	PATANGUE	91.3	90.3	89.5	90.6	88.9	VS		32.9	12.5	26.9	13.6	85.9		3.0	
	12	PLENAB	80.3	85.9	85.3	86.0	86.6	VS		36.9	11.8	25.1	10.7	84.6		2.0	
	13	3 PRC	78.3	84.9	77.6	66.8	75.7	S		29.9	12.1	17.7	11.4	71.2		4.5	
	14	PTMV	87.3	93.4	90.4	92.1	91.8	VS		33.9	12.1	29.0	13.6	88.5		3.3	
	15	SUMULONG	94.8	95.4	85.0	80.7	76.3	S		31.1	10.0	18.0	12.1	71.3		5.0	
	16	TAGUM,PAY	79.7	77.6	69.7	79.4	81.1	S		31.2	9.6	21.7	15.0	77.6		3.5	
	17	SPR		90.8	90.5	87.7	87.0	VS		34.4	15.0	20.6	15.0	85.0		2.0	
	18	BABO PANGULO		88.8	86.8	84.3	80.0	S		31.2	8.9	22.9	15.0	78.0		2.0	
	19	APPJA		81.5	83.7		74.1	F		31.0	12.1	16.8	10.7	70.6		3.5	
	20	ABE-ABE					91.7	VS		37.7	13.2	23.8	15.0	89.7		2.0	
		Subtotal	86.6	86.1	83.7	81.8	82.4	S		32.7	11.9	22.2	12.4	79.3		3.2	
						84.1			82%	79%	74%	83%	79%		27%		

Annex C-1 (Part-2)

IA Profile, O&M Performance and Functionality in Region 4

Table C1-231-1 Summary of IA Profile (Region 4)

Region No.	NIS	IA	Location (mailing Address)	Service area (ha)		TSAG (unit)					Reactivation of TSAG		SEC Registration Date	Farmers / Benef. in Service 2008	Tenurial Status of Member in Dec. 2008			Ratio of Tenant-Lessor and Amortizing Owner in Dec. 2008			IMT Contract in Dec. 2008		Canal Length (km) in Dec. 2008						
				2008	2009	2004	2005	2006	2007	2008	Ave. ha	Date			Date	FO/PO	ST	L	AO	Total	ST	L	AO	Type	Latest validity date	Total	Contracted		
4	Sta. Cruz Division I	Sta. Cruz River Irrigation System IA, Inc. (SCRISIA)	Brgy. Genld. Sta. Cruz	950.0		27	27	27	22	22	43	2007	1981/2/5	863	647	216	863	1,726	75%	23%	50%	Type 1	12/31/08	25.58	25.58				
				160.0		2	2	2	2	2	80	2007	1987/4/28	146	131	15	146	292	90%	10%	50%	Stage I & II	12/31/08	6.00	6.00				
				387.0		7	7	7	11	11	35	2007	1981/2/7	352	264	88	352	704	75%	25%	50%	Type I & II	12/31/08	10.03	10.03				
				304.0		-	-	-	-	9	34	2008	on process	303	242	61	303	606	80%	20%	50%	none		10.77					
				384.0		-	-	-	-	6	64	2008	on process	349	297	52	349	698	85%	15%	50%	none		7.44					
				2,185.0		36.0	36.0	36.0	35.0	50.0	44			2,015.0	1,582	431	2,013	4,026	39%	11%	50%			59.82	41.61				
				169.0		31	31	31	31	5					127	11	45	0	20	71	63%	0%	44%	T-1		3.97			
				215.0		23	23	25	30	30	7				197	40	35	38	52	202	17%	19%	46%	T-1		6.92			
				274.0		23	23	25	30	30	9				274									Stage-2		1.56			
																								T-1		4.50			
2	Subtotal Dumacea	Managong (+2008) Ilayang Dupay (+2008) Dalaampangan (+2008) Mayao Parada Sia Theresia (+2008)	Bantigue, Pagbilao Ilayang Dupay, Lucena Mayao Castillo, Lucena Mayao Castillo, Lucena Mayao Parada, Lucena	277.0		42	42	42	42	7				262	19	93	59	171	54%	0%	46%	T-1		8.47					
				90.0		11	11	11	12	15	6				140	40	15	35	90	17%	39%	44%	No Contract						
				163.0		25	25	30	32	35	5				130	60	15	30	60	165	9%	18%	73%						
				170.0		56	56	56	56	56	3				171	8	79	16	103	77%	0%	23%							
				1,360.0		211	211	220	233	239	6				1,301	178	282	103	207	802	35%	13%	48%				29.12		
				455.3		20	20	20	20	23						310	165	145						Type 2	July 1, 2009	8.736	0.000		
				137.0		6	6	6	6	6	23					83	29%	0%	71%					Type 2	July 1, 2009	3.6	0.0		
				145.8		6	6	6	6	24						78	55	24						Type 2	July 1, 2009	1.9	0.0		
				172.8		18	18	18	18	18	10					125	83	42						Type 2	July 1, 2009	2.7	0.0		
				76.0		15	15	15	15	15	5					36	29	16						Type 2	July 1, 2009	5.3	0.0		
3	Subtotal Malatago	SAMAGPAMANA BAGONG SIKAT FIA SANBAG KABANGKALAN APOSANDO JORISAN SANRI CENTROMA TEL-PARADISE PARADAHAN PARANG IA APIA PTSM GAYEM MALUKIA ESDAKAMA ESTARVIT ITEEM TARABYANGAN-PARIENTE TARMAL MAPKAM TARIBIDAN	Dumangueta, Narra Bagong Sikat, Narra Bagong Sikat, Narra Sandoval, Narra Sandoval, Narra Jose Rizal, Aborlan Jose Rizal, Aborlan Tigman, Aborlan Tigman, Aborlan Tigman, Aborlan Plaridel, Aborlan Plaridel, Aborlan Bagong Sikat, Narra Malatago, Narra Malatago, Narra Tarinon, Narra Tarinon, Narra Ehiva, Narra Malatago, Narra Malatago, Narra Malatago, Narra	455.3		20	20	20	20	23																			
				137.0		6	6	6	6	6	24																		
				145.8		6	6	6	6	6	24																		
				172.8		18	18	18	18	18	10																		
				76.0		15	15	15	15	15	5																		
				138.9		8	8	8	8	8	17																		
				153.1		9	9	9	9	9	17																		
				97.3		10	10	10	10	10	21																		
				208.8		10	10	10	10	10	14																		
				94.0		7	7	7	7	7	13																		
22.0		5	5	5	5	5	4																						
170.0		18	18	18	18	18	9																						
40.6		5	5	5	5	5	8																						
122.3		7	7	7	7	7	17																						
116.3		15	15	15	15	15	8																						
58.3		3	3	3	3	3	19																						
116.3		7	7	7	7	7	7																						
251.1		19	19	19	19	19	13																						
104.4		7	7	7	7	7	15																						
162.5		11	11	11	11	11	15																						
92.5		7	7	7	7	7	13																						
79.3		9	9	9	9	9	9																						
3,014.2		219	219	219	219	219	14						1,970	1,267	750	0	2,017	37%	0%	63%	Type 2	July 1, 2009	83.1	0.0					

Table C1-232-1 Summary of IA O & M Performance (Region 4)

Region No.	NIS	IA	Crop Season	Service area (ha)		Program area (ha)								Irrigated and planted area (ha)								Benefited Area (ha)							
				2008	2008	2004	2005	2006	2007	2008	Ratio	2004	2005	2006	2007	2008	Ratio	2004	2005	2006	2007	2008							
			Dry	173	165	165	165	165	165	165	165	95%	149	59	129	138	130	75%	92	42	120	129	130						
		APOSANDO	Wet	76	76	76	76	76	76	76	76	100%	56	52	76	73	42	56%	53	52	76	73	38						
		JORISAN	Dry	76	55	55	55	55	55	55	55	72%	48	41	41	48	32	42%	8	8	38	41	32						
		JORISAN	Wet	139	215	125	120	120	120	120	86%	186	99	98	107	110	79%	172	99	98	107	110	110						
		SA'NRI	Dry	139	246	125	125	125	125	125	90%	211	123	61	72	77	55%	161	84	53	68	77	77						
		SA'NRI	Wet	153									108	122	119	110	72%		108	122	119	110	110						
		CENTROMA	Dry	209	191	191	191	191	191	191	91%	156	134	137	142	145	88%	152	134	137	142	142	16						
		CENTROMA	Wet	209	180	180	180	180	180	180	86%	119	68	86	96	92	44%	59	13	63	76	92	92						
		TEL-PARADISE	Dry	97	152	70	70	70	70	70	72%	135	41	46	57	45	47%	94	41	46	57	45	45						
		TEL-PARADISE	Wet	97	152	60	60	60	60	60	62%	85	32	13	16	15	16%	13	2	12	12	12	15						
		PARADAHAN	Dry	94	70	70	70	70	70	74%		53	54	68	37	39%		53	54	68	68	35	35						
		PARADAHAN	Wet	94	70	70	70	70	70	74%		53	54	68	37	39%		53	54	68	68	35	35						
		PARANG IA	Dry	22	22	22	22	22	22	100%		19	14	26	6	7%		19	18	15	17	16	16						
		PARANG IA	Wet	22	22	22	22	22	22	100%		19	14	26	6	7%		19	18	15	17	16	16						
		APIA	Dry	170	151	151	151	151	151	89%	151	9	137	99	83	49%	151	9	102	99	99	81	81						
		APIA	Wet	170	120	120	120	120	120	71%	88	36	71	37	31	18%	33	12	64	14	14	31	31						
		PTSM	Dry	41	35	35	35	35	35	86%	32	0	20	10	4	10%	25	0	20	10	10	4	4						
		PTSM	Wet	41	30	30	30	30	30	74%	26	2	9	2	3	7%	16	1	8	0	0	3	3						
		GAYEM	Dry	122	122	122	122	122	122	100%	120	116	113	116	104	85%	119	116	113	116	116	104	104						
		GAYEM	Wet	122	122	122	122	122	122	100%	140	105	114	94	100	82%	110	99	96	96	90	100	100						
		MALKIA	Dry	116	110	110	110	110	110	95%	107	95	98	105	94	81%	107	95	98	105	94	94	94						
		MALKIA	Wet	116	110	110	110	110	110	86%	100	77	87	88	96	82%	68	78	78	79	79	96	96						
		ESDAKAMA	Dry	58	52	52	52	52	52	89%	26	38	43	45	33	57%	26	38	43	45	33	33	33						
		ESDAKAMA	Wet	58	46	46	46	46	46	78%		32	35	30	38	66%		28	32	26	26	38	38						
		ESTARVIT	Dry	116	110	110	110	110	110	95%	58	82	85	69	67	58%	53	82	85	69	67	67	67						
		ESTARVIT	Wet	116	90	90	90	90	90	77%	66	35	37	63	48	41%	44	28	32	60	48	48	48						
		TEEM	Dry	251	235	235	235	235	235	93%	122	170	180	177	173	69%	122	170	180	177	173	173	173						
		TEEM	Wet	251	210	210	210	210	210	84%	200	119	120	160	158	63%	164	94	107	152	158	158	158						
		TARABYANGAN-PARIENTE	Dry	104	88	88	88	88	88	85%	78	74	78	43	60	57%	72	74	78	43	43	60	60						
		TARABYANGAN-PARIENTE	Wet	104	75	75	75	75	75	72%		23	20	46	46	44%		20	18	18	44	46	46						
		TARMAL	Dry	163	160	160	160	160	160	98%	160	133	124	135	141	87%	160	133	124	135	141	141	141						
		TARMAL	Wet	163	130	130	130	130	130	80%	126	94	72	93	97	60%	225	85	67	86	97	97	97						
		MAPKAM	Dry	93	90	90	90	90	90	97%	90	78	85	80	80	90%	85	78	85	80	90	90	90						
		MAPKAM	Wet	93	85	85	85	85	85	92%	143	55	44	65	64	69%	135	43	39	60	64	64	64						
		TARIBIDAN	Dry	80	80	80	80	80	80	100%	76	76	76	76	73	92%	76	74	76	76	73	73	73						
		TARIBIDAN	Wet	79	70	70	70	70	70	88%		50	49	63	63	79%		46	46	60	63	63	63						
		Subtotal	Wet	2,878	2,731	2,791	2,786	2,786	2,786	2,786	97%	2,385	2,209	2,450	2,332	2,248	78%	2,293	2,154	2,409	2,332	2,055	2,055						
		Subtotal	Dry	3,014	2,360	2,363	2,555	2,555	2,555	2,555	85%	2,052	1,256	1,598	1,824	1,761	58%	1,468	912	1,435	1,661	1,761	1,761						

Table C1-232-2. Summary of IA O & M Performance (Region 4)

Region No.	NIS	IA	Crop Season	Service area (ha)	Crop Intensity (%)				Productivity (Yield) of Paddy (cav./ha)				Collection Efficiency of ISF, (Current Account Base)									
					2004	2005	2006	2007	2008	Average	2004	2005	2006	2007	2008	Average	2004	2005	2006	2007	2008	Average
4	Sta Cruz Division I	Sta. Cruz River Irrigation System IA, Inc. (SCRISIA)	Wet	939	100	100	13	74	91	69	73	79	95	79	33	30	37	-	56	39		
				939	82	99	78	81	86	100	110	103	105	105	-	-	55	-	-	-		
			Dry	1,219	85	84	83	120	93	71	77	81	81	95	81	21	12	46	-	38	29	
				1,219	85	81	81	121	92	100	110	102	110	110	106	-	-	45	-	-	-	
			Division II (O&M data not segregated per IA)	Semahang ng Negkaisang Diwa, Inc. (SANDIWA) Walang Tanggihan ISA, Inc. (WATISA) Lateral C IA * Lateral D IA *	Wet	2,158																
						2,158																
					Dry	101	92	101	89	101	89	95	80	27	21	42	-	47	34	na		
						101	89	101	89	101	89	108	105	-	-	-	-	50	na			
					Wet	167	93	90	92	90	92	70	85	78	55	85	78	80	66	61		
						167	93	81	81	92	87	70	80	80	35	47	41	35	47	41		
					Dry	215	53	61	57	61	57	70	90	80	33	35	33	33	33	26		
						215	53	59	71	65	65	70	88	84	27	24	26	27	24	26		
					Wet	68	68	68	68	68	68	85	85	85	57	57	57	57	57	57		
68	68	68				68	68	68	85	85	85	57	57	57	57	57	57					
Dry	179	96	76	76	76	76	75	75	63	63	63	63	63	63	63							
	179	96	70	70	70	70	95	95	49	49	49	49	49	49	49							
Wet	189	96	100	98	100	98	80	80	80	38	38	38	38	38	38							
	189	96	94	94	94	94	82	82	42	42	42	42	42	42	42							
Dry	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0							
	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0							
Wet	218	218	82	82	82	82	88	88	59	59	59	59	59	59	59							
	218	218	68	68	68	68	78	78	39	39	39	39	39	39	39							
Dry	90	90	85	85	85	85	87	87	52	52	52	52	52	52	52							
	90	90	88	88	88	88	78	78	34	34	34	34	34	34	34							
Wet	165	165	91	91	91	91	84	84	26	26	26	26	26	26	26							
	165	165	0	0	0	0	0	0	0	0	0	0	0	0	0							
Dry	170	170	97	98	97	97	90	90	51	51	51	51	51	51	51							
	170	170	97	97	97	97	90	90	60	60	60	60	60	60	60							
Wet	1,393	1,393	84	83	84	83	85	81	49	49	49	49	49	49	49							
	1,228	1,228	83	79	83	79	86	85	39	39	39	39	39	39	39							
3	Malatgao RIS	SAMPAGMANA BAGONG SIKAT FIA SANBAG KABANGKALAN	Wet	455	90	97	96	84	84	90	72	65	80	83	67	77	75	92	86	79		
				455	87	47	64	76	79	71	50	51	78	70	48	59	38	73	65	79		
			Dry	188	188	87	94	94	121	80	72	81	86	81	80	100	100	100	93	94	94	
				137	187	84	77	86	83	103	47	50	79	71	60	61	34	65	83	75	94	
			Wet	146	82	82	89	82	69	82	86	82	85	86	82	82	93	99	100	100	98	
				146	97	87	69	80	73	45	81	82	81	82	81	85	72	96	84	84		
			Dry	173	97	87	93	92	88	91	79	75	80	82	82	98	92	96	100	96	96	
				173	97	87	93	92	88	91	79	75	80	82	82	98	92	96	100	96	96	

Table C-112-33 Summary of IA Functionality for the Irrigation Service (Region 4)

Region No.	NIS	IA	Average Ratings on Evaluated Functionality of IA							Breakdown of Average Ratings in 2008					Additional indicators	
			2004	2005	2006	2007	2008	2008	Evaluation in 2008	O & M	Organization	Financial	Organizational Discipline	Total		
4	1	Sta. Cruz	73.17	76.43	75.12	75.12	81.72	S	29.18	12.86	19.97	10.71	81.72	9.00		
			Lateral A													
			Division II	68.61	30.38	68.41	68.41	74.33	F	20.56	11.43	19.34	10.00	74.33	7.00	
				Lateral B												
				Lateral E	74.79	75.24	73.93	73.93	77.01	F	25.90	12.14	19.97	10.00	77.01	9.00
Lateral C																
		Lateral C IA *														
		Lateral D IA *														
		Subtotal	72.19	60.68	72.49	72.49	77.69	S	25.21	12.14	19.76	10.24	77.69	8.33		
					71.11			63%	81%	66%	68%	78%	69%			
2	Dumacaa	Bayles IA	53.49	67.97	68.64	67.97			43.85	37.05	29.48	25.00	155.38	20.00		
		Pagkakaisa	51.94	61.97	62.99	61.97			16.85	13.04	9.52	9.64	49.05	8.00		
		Busilak ng Sulok	49.98	60.60	60.64	60.60			42.13	32.60	23.80	24.10	142.63	20.00		
		Bikas IA (Nagkakaisang Magsasaka)	37.63						0.00	0.00	0.00	0.00	0.00	0.00		
		0	34.75						0.00	0.00	0.00	0.00	0.00	0.00		
		0							0.00	0.00	0.00	0.00	0.00	0.00		
		0							17.54	14.82	11.79	10.00	54.15	8.00		
		Mapagong (+2008)							43.85	37.05	29.48	25.00	155.38	20.00		
		Ilayang Dupay (+2008)							17.15	10.89	6.21	8.21	42.46	8.00		
		Dalampasigan (+2008)							42.88	27.23	15.53	20.53	126.15	20.00		
Mayao Parada Sta. Theresa (+2008)							17.15	10.89	6.21	8.21	42.46	8.00				
		Subtotal						42.88	27.23	15.53	20.53	126.15	20.00			
3	Malaga RIS	SAMAGPAMANA	79.30	77.70	77.70	77.70	86.50	VS	73.93	28.58	75.00	37.50	216.25	1.25		
		BAGONG SIKAT FIA	77.80	79.70	79.70	79.70	89.50	VS	32.92	11.07	30.00	15.00	88.99	0.50		
		SANBAG	87.00				91.80	VS	35.10	13.60	30.00	12.90	91.60	0.25		
		KABANGKALAN	90.60	77.10	77.10	77.10	90.70	VS	35.41	13.57	30.00	12.86	91.84	0.25		
		APOSANDO	84.70	77.20	77.20	77.20	90.50	VS	32.39	13.57	30.00	14.29	90.25	0.25		
		JORISAN	86.70	75.00	75.00	75.00	91.70	VS	34.75	13.57	30.00	12.86	91.18	0.50		
		SANRI	83.50	72.90	72.90	72.90	91.50	VS	34.10	12.14	30.00	15.00	91.24	0.25		
		CENTROMA	80.30	68.30	68.30	68.30	89.70	VS	33.44	13.57	30.00	12.86	89.87	0.50		

Table C - 112-33 Summary of IA Functionality for the Irrigation Service (Region 4)

Region No.	NIS	IA	Average Ratings on Evaluated Functionality of IA							Breakdown of Average Ratings in 2008					Additional indicators
			2004	2005	2006	2007	2008	2008	Evaluation in 2008	O & M	Organization	Financial	Organizational Discipline	Total	
		TEL-PARADISE		75.20	75.20	70.50	90.90	VS	40	15	30	15	100	12	
		PARADAHAN		72.60	70.80		90.90	VS	32.79	13.57	30.00	14.29	90.65		
		PARANG IA		83.40	71.60		92.00	VS	32.79	13.57	30.00	14.29	90.65	0.25	
		APIA	44.26	87.10	75.90	75.90	90.90	VS	33.18	13.57	30.00	15.00	91.75	0.25	
		PTSM	45.39	74.90	72.00	72.00	88.60	VS	32.79	13.57	30.00	12.14	88.50	0.25	
		GAYEM		87.00			89.70	VS	34.80	13.60	29.00	12.10	89.50	0.25	
		MALKJA		84.70			89.70	VS	34.80	13.60	29.00	12.10	89.50	0.25	
		ESDAKAMA		86.60			90.90	VS	32.80	13.60	30.00	14.30	90.70	0.25	
		ESTARVIT	45.64	77.20	75.90	73.30	85.50	VS	34.75	13.57	27.93	10.71	86.96	0.25	
		TEEM	43.49	77.70	75.40		89.00	VS	34.75	13.57	28.97	11.43	88.72	0.25	
		TARABYANGAN-PARIENTE		74.60	70.50		85.60	VS	34.75	13.57	27.93	11.43	87.68	0.50	
		TARMAL	47.06	85.40	75.30	75.30	87.50	VS	32.79	13.57	27.93	10.71	85.00	1.25	
		MAPKAM	45.75	91.60	75.30	75.30	89.30	VS	34.75	13.57	30.00	10.71	89.03	0.25	
		TARIBIDAN	45.75	91.60	75.30	75.30	90.00	VS	34.75	13.57	30.00	10.71	89.03	0.25	
		Subtotal				80.56									

Annex C-1 (Part-2)

IA Profile, O&M Performance and Functionality in Region 6

Table C - 112-41-2. Summary of IA Profile (Region 4)

Region No.	NIS	IA	Location (mailing Address)	Service area (ha)		TSAG (unit)					Reactivation of TSAG Date	SEC. Registration Date	Farmers / Benef. in Service Area (I)	Tenurial Status of Member in Dec. 2008				Ratio of Tenant, Lessor and Amortizing Owner in Dec. 2008 (%)			IMT Contract in Dec. 2008		Canal Length (km) in Dec. 2008						
				2008	2004	2005	2006	2007	2008	Aver. Ha				FO/PO	ST	L	AO	Total	ST	L	AO	Type	Latest validity date.	Total	Contracte d				
6	Suague	Upper Amirroy	Amirroy, Mina, Iloilo	91.2				5			18	July-07	2007/9/20	70	3	13	29	14	59	22	49	29				2.3			
		Labay	Rizal St., Mina, Iloilo	50.0				2			25	July-08	2008/9/30	29	3	27	19	49	6	55	39				1.8				
		Ajeba	Janipaan, East Mina, Iloilo	295.9				8			37	January-09	2009/3/25	180				0							3.4				
		AMB Extra	Amirroy, Mina, Iloilo	84.1				1			84	March-08	2008/6/10	50	7	26	5	38	18	68	13				1.2				
		AGDABASICA	Badiangan, Mina	597.0				18			33		1990/9/15	387	78	27	54	103	262	10	21	69				6.3			
		Suague Three	Guinacas, Pototan	443.0				16			16		1990/4/15	402	82	51	83	121	337	15	25	60				9.1			
		Suague Four	Cahaguhican, Pototan	561.0				11			11		1990/11/15	337	70	47	61	109	287	16	21	62				5.6			
		Subtotal				2,122.2			45	45	50	61	35		1,455	233	148	280	371	1,032	14	27	59				29.5	0.0	
		2	Aganan RIS	Pasamisba																									
				SAMICASA	Roxas St., San Miguel	457.0				10	10	10	10	38			248	45	56	34	226	20	25	55	1 & 2				6.1
San Jose-Sto. Nifno	San Jose, San Miguel			364.0				12	8	6	6	61			201	30	89	23	10	152	59	15	26	1 & 2			4.6		
Mactabitu	Caboloan Norte, Otton, Iloilo			351.0				6	6	6	6	59			122	33	55	11	110	50	10	40	1 & 2			3.9			
Mactabitu	Mambog, Otton, Iloilo			481.0				12	12	10	10	48			280	41	75	33	16	165	45	20	35	1 & 2			9.8		
Salambitu	Tuburan, Otton			453.0				9	9	9	8	57			275	62	77	55	26	220	35	25	40	1 & 2			9.0		
CAPPA	Pulo, Maestra Vria, Otton			521.0				8	8	6	5	104			154	30	46	33	15	124	37	27	36	1 & 2			8.1		
Lampacappa				367.0																									
Subtotal						3,370.0			57	53	49	46	61		1,280	287	387	211	112	997	39	21	40				41.4	29.9	
3	Sta. Barbara RIS			Palacatan	Tijum, Pavia, Iloilo	840.0			20	20	20	20	42			315	170	37	33	12	252	15	13	72	1 & 2			10.5	
		Lacasan	Calaboa, Leganes, Iloilo	686.0				16	16	16	14	49			308	53	90	59	8	210	43	28	29	1 & 2			11.0		
		Cabuglasan	Lapavon, Leganes, Iloilo	831.0				20	20	20	11	76			293	55	82	61	7	205	40	30	30						
		Lacagbun	Lapavon, Leganes, Iloilo	2,357.0				56	56	56	10	43			1,136	303	241	174	29	747	32	23	44				21.6		
		Subtotal																											
		4	Panglatan RIS	TOBERI	Payao, Binalbagan, N.O	40.3				4			10	June 14, 2007	December 3, 2007	84	53	10	17	4	84	12	20	68	none				
				BOCADA	Payao, Binalbagan, N.O	164.0				7	7	7	23	August 28, 2007	April 28, 2008	172	103	3	57	9	172	2	33	65	T1 & II	Wet-'09-Dry-'10		3.9	
				KABESA	Payao, Binalbagan, N.O	148.4				8	8	8	19	October 18, 2007	April 23, 2008	178	52	7	94	25	178	4	53	43	none				
				SALIFA	Payao, Binalbagan, N.O	260.5				10	10	10	26	December 18, 2007	July 11, 2008	207	98	73	27	9	207	35	13	52	none				
				SANTABIBA	Payao, Binalbagan, N.O	305.0				12	12	12	25	January 9, 2008	August 20, 2008	220	132	5	54	29	220	2	25	73	none				
PRIC	Payao, Binalbagan, N.O			250.0				9	9	9	28	March 18, 2008	July 11, 2008	210	84	23	51	52	210	11	24	65	none						
Subtotal						1,668.1		0	0	0	19	50	23		1,071	522	121	300	128	1,071	11	28	61				0.0	3.9	

Table C - 112-43 Summary of IA Functionality for the Irrigation Service (Region 6)

Region No.	NIS	IA	Average Ratings on Evaluated Functionality of IA					Breakdown of Average Ratings in 2008						
			Evaluation in 2008					O & M	Organizational	Financial	Organizational	Total	Additional	
			2004	2005	2006	2007	2008							
		KABESA					35.5	P	0.0	8.5	16.5	8.6	33.5	2.0
		SALIFA					33.4	P	0.0	8.6	15.0	7.9	31.4	2.0
		SANTABIBA												
		PBJC												
		Subtotal												

Annex C-1 (Part-2)

IA Profile, O&M Performance and Functionality in Region 10

Table C1-251-2 Summary of IA Profile (Region 10)

Region No.	NIS	IA	Location (mailing Address)	Service area (ha)	TSAG (unit)					Reactivation of TSAG Date	SEC Registration Date	Farmers / Benef. in Service 2008	Tenurial Status of Member in Dec. 2008			Ratio of Tenant, Lessor and Amortizing Owner in Dec. 2008 (%)			IMT Contract in Dec. 2008		Canal Length (km) in Dec. 2008			
					2004	2005	2006	2007	2008				Ave. ha	FOPO	ST	L	AO	ST	L	AO	Type	Latest validity date	Total	Contracted
39		39. Kalawag New San Roque (KNSR) IA, Inc.	New San Roque Apo Masote, Miblv City, Buk.	2008	24	24	24	24	10	2008	55													
40	+	40. San Martin Simaya (SAS) IA, Inc.	San Martin, Malaybalay City	658.7		7	7	7	94	2006	120													
41	PRIS	41. Purais Pajo IA, Inc.	Purais, Simaya, Malaybalay City, Buk		35	35	35	9	7	2006	55													
42	PRIS	42. Mansagkoy Legis Binalbagan(MALABI)	Binalbagan, Simaya, Malaybalay City			12	12	12		2006	120													
43	PRIS	43. Simaya IA, Inc.	Simaya, Malaybalay City			385	429	499	21		83													
	Subtotal			10,655.0	376	376	385	429	499	21	8,982											189.2		
3	Muleta RIS																							
		MBUF IA	San Miguel, Maranag, Bukidnon	54.0	2	2	2	2	27	2008	107	81	15	3	8	107	14	3	7	II	2009		5.8	
		BAM IA	Base Camp, Maranag, Bukidnon	289.8	6	6	6	5	58	2008	271	234	24	13	271	9	5	0	0	II	2009		6.9	
		PANP IA	Anahawon, Maranag, Bukidnon	86.1	2	2	2	3	29	2008	74	66	6	2	74	8	3	0	0				9.7	
		PAWADTALAN IA	Panadalan, Maranag, Bukidnon	5.0	1	1	1	1	3	2008	1	1	1	1	1	1	0	0	0				0.0	
		TUBADO IA	Tubagon, Maranag, Bukidnon	55.4	3	3	3	3	18	2008	93	83	2	8	93	2	9	0	0	II	2009		3.3	
		MUSDOL IA	Musun, Maranag, Bukidnon	574.3	3	3	3	2	287	2008	45	41	2	2	45	4	4	0	0	II	2009		8.1	
		MCXXKL IA	San Ramon, Base Camp Maranag, Bukidnon	325.0	-	-	-	-	-	2008	257	126			131	257	0	0	51	II	2009		4.2	
		DON SISAP IA	Simangayan, Don Carlos	225.0	4	4	4	4	4	2008	136	36	6	6	94	136	4	0	0	69	II	2009		1.3
	Subtotal			1,614.3	21	21	21	20	81		983	667	55	28	233	983	4	0	0				81.3	
																							29.7	

Table CI-252-2. Summary of IA O & M Performance (Region 10)

Region No.	NIS	IA	Crop Season	Service area (ha)	Crop Intensity (%)										Productivity (Yield) of Paddy (cav./ha)										Collection Efficiency of ISF (Current Account Base)									
					2004	2005	2006	2007	2008	Average	2004	2005	2006	2007	2008	Average	2004	2005	2006	2007	2008	Average												
91.0	167.4	KAHUPUNGAN IA	Wet	165.0	97.6	77.0	79.3	110.6	95.9	104.9	101.1	83	64	75	64	69	81	70	86	81	81	64.7	24.4	40.0	62.3	79.3	54.1							
			Dry	168.4	77.0	77.0	79.3	98.0	94.0	88.7	87.4	87.4	58	75	64	69	81	70	86	81	81	33.3	45.0	22.3	50.1	47.4	39.6							
			Wet	127.4	127.4	127.4	127.4	101.5	92.5	101.8	98.6	98.6	91.4	91.4	91.4	91.4	91.4	91.4	91.4	91.4	91.4	91.4	91.4	91.4	91.4	91.4	91.4	91.4						
			Dry	133.4	133.4	133.4	133.4	94.0	88.7	88.7	88.7	88.7	91.4	91.4	91.4	91.4	91.4	91.4	91.4	91.4	91.4	91.4	91.4	91.4	91.4	91.4	91.4	91.4						
			Wet	310.3	310.3	310.3	310.3	97.9	93.2	99.8	97.0	97.0	93.4	93.4	93.4	93.4	93.4	93.4	93.4	93.4	93.4	93.4	93.4	93.4	93.4	93.4	93.4	93.4						
			Dry	315.3	315.3	315.3	315.3	111.2	99.0	104.5	104.9	104.9	93.9	93.9	93.9	93.9	93.9	93.9	93.9	93.9	93.9	93.9	93.9	93.9	93.9	93.9	93.9	93.9	93.9					
			Wet	185.0	185.0	185.0	185.0	88.4	105.7	101.5	87.1	96.2	100	65	75	93	81	83	83	83	83	83	86.8	36.4	50.0	63.8	95.3	66.5						
			Dry	183.8	183.8	183.8	183.8	65.9	94.0	74.0	101.7	79.0	62	73	80	80	80	80	80	80	80	80	40.1	71.3	62.6	56.8	60.1	58.2						
			Wet	225.3	225.3	225.3	225.3	96.0	98.1	98.7	97.6	97.6	82	82	82	82	82	82	82	82	82	82	82	82	82	82	82	82	82					
			Dry	233.4	233.4	233.4	233.4	74.0	101.7	87.8	87.8	87.8	82	82	82	82	82	82	82	82	82	82	82	82	82	82	82	82	82					
91.0	181.9	LATERAL G-12 IA	Wet	251.2	251.2	251.2	251.2	86.0	94.1	98.5	92.9	92.9	81	81	81	81	81	81	81	81	81	81	81	81	81	81	81							
			Dry	203.7	203.7	203.7	203.7	93.0	80.6	111.1	94.9	87.8	85	93	85	85	88	88	88	88	88	49.0	98.8	137.0	34.1	59.4	76.8							
			Wet	254.1	254.1	254.1	254.1	74.0	101.7	87.8	87.8	87.8	82	82	82	82	82	82	82	82	82	82	82	82	82	82	82	82						
			Dry	203.7	203.7	203.7	203.7	82.0	88.6	98.6	89.7	89.7	81	81	81	81	81	81	81	81	81	81	42.0	36.8	42.0	36.8	42.0	36.8						
			Wet	115.9	115.9	115.9	115.9	74.0	101.7	87.8	87.8	87.8	81	81	81	81	81	81	81	81	81	81	81	81	81	81	81	81	81					
			Dry	115.9	115.9	115.9	115.9	84.0	99.5	93.2	86	62	71	80	80	80	80	80	80	80	80	80	79.6	39.6	62.0	62.5	63.0	61.4						
			Wet	703.7	703.7	703.7	703.7	84.0	91.0	94.0	99.5	93.2	86	62	71	80	80	80	80	80	80	80	79.6	39.6	62.0	62.5	63.0	61.4						
			Dry	456.3	456.3	456.3	456.3	95.1	104.0	96.6	101.6	99.2	91	64	88	81	85	82	87.0	27.3	86.0	100.5	90.3	78.2	44.1	66.0	49.1							
			Wet	467.0	467.0	467.0	467.0	83.1	99.0	94.0	99.4	85.7	60	73	76	80	82	74	16.7	48.2	44.1	95.8	72.5	55.5	92.6	83.3	67.6							
			Dry	254.7	254.7	254.7	254.7	79.7	80.0	94.3	97.9	91.7	89	64	72	93	84	81	60.0	39.3	63.0	92.6	83.3	67.6	92.6	83.3	67.6							
658.7	86.9	KULAMPION IA	Wet	132.0	132.0	132.0	132.0	93.0	91.3	142.4	108.9	91.1	62	72	78	78	82	74	82	85	85	11.4	48.7	85.0	40.1	93.8	73.0							
			Dry	244.2	244.2	244.2	244.2	95.0	90.6	96.7	97.4	97.4	67	88	83	85	84	82	84	81	81	60.2	56.6	64.0	74.4	32.0	57.4							
			Wet	889.0	889.0	889.0	889.0	89.1	102.0	91.0	98.5	95.3	65	73	85	78	81	76	35.9	40.9	42.9	41.4	38.8	40.0	42.9	41.4	38.8	40.0						
			Dry	889.0	889.0	889.0	889.0	95.9	89.1	102.0	91.0	98.5	95.3	65	73	85	78	81	76	35.9	40.9	42.9	41.4	38.8	40.0	42.9	41.4	38.8	40.0					
			Wet	169.8	169.8	169.8	169.8	91.9	96.3	102.7	95.4	81.5	93.5	66	88	83	84	85	81	81	81	81	63.8	49.6	45.0	51.2	26.6	47.2						
			Dry	136.5	136.5	136.5	136.5	92.1	91.4	98.0	91.0	98.2	94.1	66	74	85	78	81	77	47.7	45.1	45.7	37.1	63.3	47.8	37.1	63.3	47.8						
			Wet	279.1	279.1	279.1	279.1	88.1	92.4	90.3	94.6	94.6	82	82	82	82	82	82	82	82	82	82	47.7	45.1	45.7	37.1	63.3	47.8						
			Dry	279.1	279.1	279.1	279.1	91.0	98.2	94.6	94.6	94.6	82	82	82	82	82	82	82	82	82	82	47.7	45.1	45.7	37.1	63.3	47.8						
			Wet	150.4	150.4	150.4	150.4	101.1	87.9	94.5	94.5	94.5	84	86	85	84	86	85	84	86	85	84	48.5	47.1	48.5	47.1	47.8	48.5						
			Dry	150.4	150.4	150.4	150.4	91.0	98.2	94.6	94.6	94.6	84	86	85	84	86	85	84	86	85	84	48.5	47.1	48.5	47.1	47.8	48.5						
325.0	Subtotal	PURAS IA	Wet	95.1	95.1	95.1	95.1	86.9	103.9	95.4	95.4	77	70	80	89	87	84	109	56	73	72	78	76	60	60	60								
			Dry	95.1	95.1	95.1	95.1	91.0	98.2	94.6	94.6	77	70	80	89	87	84	109	56	73	72	78	76	60	60	60								
			Wet	10,754.0	10,754.0	10,754.0	10,754.0	91	96	91	97	94	77	70	80	89	87	84	109	56	73	72	78	76	60	60	60							
			Dry	11,414.5	11,414.5	11,414.5	11,414.5	87	84	87	88	98	92	66	74	71	77	84	80	41	53	36	50	72	60	60	60	60						
			Wet	54.0	54.0	54.0	54.0	100.0	100.0	100.0	100.0	100.0	131	45	79	81	85	86	75	80.5	49.0	94.8	100.0	85.0	81.9	81.9	81.9							
			Dry	289.8	289.8	289.8	289.8	100.0	100.0	100.0	100.0	100.0	112.0	54	75	78	84	81	74	40.1	76.7	87.0	93.0	65.4	72.4	72.4	72.4							
			Wet	289.8	289.8	289.8	289.8	93.0	101.0	98.0	98.0	98.0	49	71	73	79	80	70	57.6	55.3	44.4	47.3	55.7	52.5	52.5	52.5	52.5							
			Dry	289.8	289.8	289.8	289.8	101.0	101.0	99.0	96.0	96.0	49	70	73	82	85	72	34.1	46.6	39.0	41.0	55.8	43.3	43.3	43.3	43.3							
			Wet	86.1	86.1	86.1	86.1	104.0	96.0	100.0	41.0	83.0	83.0	50	26	74	76	80	71	59.7	36.8	43.0	28.8	8.1	35.3	35.3	35.3							
			Dry	86.1	86.1	86.1	86.1	103.0	100.0	99.0	108.0	108.0	55	69	70	65	78	67	47.5	58.3	54.0	46.0	20.6	45.3	45.3	45.3								
225.0	Subtotal	PANADITAN IA	Wet	5.0	100.0	72.0	121.0	98.0	98.0	98.0	98.0	31	64	64	64	64	64	64	64	64	64	100.0	31.3	36.1	36.1	36.1								
			Dry	5.0	100.0	62.0	73.0	75.0	78.0	78.0	78.0	40	34	74	65	65	53	36.6	100.0	26.0	100.0	100.0	65.7	65.7	65.7	65.7								
			Wet	55.4	102.0	95.0	100.0	95.0	97.0	97.0	97.0	58	73	70	70	70	81	70	55.3	62.5	59.0	37.0	70.7	56.9	56.9	56.9								
			Dry	55.4	100.0	103.0	100.0	95.0	99.0	99.0	99.0	58	73	70	70	70	81	70	55.3	62.5	59.0	37.0	70.7	56.9	56.9	56.9								
			Wet	574.3	574.3	574.3	574.3	98.0	90.0	65.0	83.0	83.0	70	72	70	86	83	76	94.7	92.1	83.0	95.5	97.4	92.6	92.6	92.6								
			Dry	574.3	574.3	574.3	574.3	111.0	85.0	87.0	87.0	87.0	60	80	72	87	87	77	62.3	64.6	80.0	100.0	77.5	77.5	77.5	77.5								
			Wet	325.0	325.0	325.0	325.0	100.0	92.0	92.0	92.0	92.0	82	82	82	82	82	82	82	82	82	82	100.0	59.9	80.0	80.0	80.0							
			Dry	325.0	325.0	325.0	325.0	84.0	84.0	84.0	84.0	84.0	82	82	82	82	82	82	82	82	82	82	100.0	59.9	80.0	80.0	80.0							

Table C1-253 Summary of IA Functionality for the Irrigation Service (Region 10)

Region No.	NIS	IA	Average Ratings on Evaluated Functionality of IA						Breakdown of Average Ratings in 2008					
			2004	2005	2006	2007	2008	Evaluation in 2008	O & M	Organization	Financial	Organizational	Total	Additional
		TUBADO IA	81.5	85.1	78.4	87.4	87.40	VS	40	15	30	15	100	12
		MUSDOL IA	82.6	88.9	82.5	87.3	89.50	VS	35.5	13.2	23.0	11.8	89.5	6.0
		MCXKL IA				83.7	83.70	S	36.2	12.1	21.3	11.1	83.7	3.0
		DON SISAP	72.6	75.0	75.1	72.7	79.40	S	35.5	10.0	21.3	9.6	79.4	3.0
		Subtotal	75.8	79.1	74.7	77.0	79.1	S	34	11	21	10	79	3
					77.1				86%	73%	70%	65%	79%	26%

Annex C-1 (Part-2)

IA Profile, O&M Performance and Functionality in Region 11

Table CI-261-I Summary of IA Profile (Region 11)

Region No.	NIS	IA	Location (mailing Address)	Service area (ha)		TSAG (unit)				Reactivation of TSAG		Farmers / Benef. in Service	IA member (2)					Membership (%)							
				2008	2004	2004	2005	2006	2007	2008	Ave ha		Date	2004	2005	2006	2007	2008	2004	2005	2006	2007	2008		
11	Mal	SAFIA	Savoy, Matanao, Davao del Sur	254.5	8	8	8	8	8	8	8	32	246	235	160	150	114	90%	90%	65%	94%	46%			
		LAGOMIA	Kilong, Matanao, DS	144.0	3	3	3	3	3	3	3	3	48	141	119	52	52	109	83%	37%	177%	77%	77%		
		KIMIA	Kilong, Matanao, DS	139.0	5	5	5	5	5	5	5	28	148	110	72	72	111	119	100%	49%	154%	80%	80%		
		MAMDASBIA	FFF Village, Matanao DS	186.9	6	6	6	6	6	6	6	31	144	164	108	200	140	100%	75%	75%	185%	97%	97%		
		LISA	Manga, Matanao, DS	321.5	9	9	9	9	9	9	9	36	110	247	89	135	300	100%	81%	81%	130%	273%	273%		
		KAPOC	Kapoc, Matanao, DS	139.1	3	3	3	3	3	3	3	46	302	121	104	104	104	88%	34%	34%	117%	34%	34%		
		LOTOFIA	Lower Towak, Matanao, DS	175.5	6	6	6	6	6	6	6	29	200	70	70	70	70	100%	100%	35%	100%	35%	35%		
		BURLAN	Buri, Matanao, D. del Sur	359.0	8	8	8	8	8	8	8	45	326	124	124	124	124	100%	100%	38%	100%	38%	38%		
		LABAKAFIA	Kauswagan, Matanao DS	332.7	19	19	19	19	19	19	18	505	217	217	217	217	267	100%	100%	55%	100%	53%	53%		
		TIFIA	Tibongbong, Matanao DS	95.1	3	3	3	3	3	3	3	32	127	88	88	88	88	88	86%	100%	69%	100%	69%	69%	
		WESLASUFIA	La Suerte, Matanao, DS	160.6	4	4	4	4	4	4	4	40	150	101	101	101	101	100%	100%	67%	100%	67%	67%		
		KABULA	Buri, Matanao, D. del Sur	278.2	13	13	13	13	13	13	21	255	146	146	146	146	201	100%	97%	97%	100%	79%	79%		
		KAMOFIA	Kauswagan, Matanao DS	490.0	1	1	1	1	1	1	1	49	100	90	90	90	90	90	100%	100%	90%	125%	90%	90%	
				MALKAIRA (merged to KABULA) 2007											102	102	102		100%	100%	93%				
		SAMAKA (merged to LABAKAFIA) 2007											103	103	103	103	100%	100%	98%						
		Subtotal		2655.0	88	88	88	88	88	30		2,754	2,037	1,622	1,833	1,827	96%	83%	66%	99%	64%	64%			
2	Padada	LAPOSA	Sacub, Hagonoy, Davao Sur	325.8	22	22	22	22	22	15															
		Upper Sinayawan FIA (UPSIFIA)	Poblacion, Hagonoy, Davao Sur	398.2	27	27	27	27	27	15						200	200	390	56%	51%	51%	56%	100%		
		BIA	Sinayawan, Hagonoy, Davao Sur	660.8	34	34	34	34	34	19						326	326	456	81%	71%	71%	81%	100%		
		BASISFIA/HUFIA	San Isidro, Hagonoy, Davao Sur	446.0	38	38	38	38	38	12						499	499	599	82%	83%	83%	82%	100%		
		San Miguel IA (SMIA)	Odaea, Digos City	80.4	6	6	6	6	6	6	6	91	463	370	370	370	463	82%	80%	80%	82%	100%			
		SAKULPI	Sacub, Hagonoy, Davao Sur	153.4	10	10	10	10	10	15						75	75	268	74%	48%	48%	74%	100%		
				Subtotal		2064.5	137	137	137	137	15			2,267				1,590	1,598	2,267					

Table C1-261-2 Summary of IA Profile (Region 11)

Region No.	NIS	IA	Location (mailing Address)	Service area (ha)		TSAG (unit)					Reactivation of TSAG Date	SEC Registration Date	Farmers/ Benef. in Service	Tenurial Status of Member in Dec. 2008				Ratio of Tenant Lessor and Amortizing Owner in Dec. 2008			IMT Contract in Dec. 2008		Canal Length (km) in Dec. 2008																														
				2008	Ave. ha	2004	2005	2006	2007	2008				FOPO	ST	L	AO	Total	ST	L	AO	Type	Latest validity date	Total	Contracted																												
11	1	Mal	Safia	254.5	8	8	8	8	8	8	8	8	8	246	89	103	77	0	269	38	29	33	No IMT Contract in Dec. 2008		3.8	3.8																											
			LAGOMIA	144.0	3	3	3	3	3	3	3	3	3	3	141	34	39	68	0	141	28	48	24		1.3	1.3																											
			KIMIA	139.0	5	5	5	5	5	5	5	5	5	5	148	38	66	38	0	142	46	27	27		2.5	2.5																											
			MAMDASBIA	186.9	6	6	6	6	6	6	6	6	6	6	144	70	59	50	0	179	33	28	39		3.7	3.7																											
			LISA	321.5	9	9	9	9	9	9	9	9	9	9	110	119	57	106	0	282	20	38	42		5.8	5.8																											
			KAPOC	139.1	3	3	3	3	3	3	3	3	3	3	302	55	30	44	0	129	23	34	43		2.3	2.3																											
			LOTOPIA	175.3	6	6	6	6	6	6	6	6	6	6	200	79	51	82	0	212	24	39	37		2.1	2.1																											
			BURLAN	359.0	8	8	8	8	8	8	8	8	8	8	326	136	169	147	0	452	37	33	30		5.2	5.2																											
			LABAKAFIA	332.7	19	19	19	19	19	19	19	19	19	19	127	61	39	28	0	128	30	22	48		1.6	1.6																											
			WESLASUFIA	160.6	4	4	4	4	4	4	4	4	4	4	150	73	62	66	0	201	31	33	36		1.8	1.8																											
			KABULA	278.2	13	13	13	13	13	13	13	13	13	13	255	111	232	56	0	399	58	14	28		6.6	6.6																											
			KAMOFIA	49.0	1	1	1	1	1	1	1	1	1	1	100	97	13	5	0	115	11	4	84		1.6	1.6																											
			MALKAIRA (merged to KABULA) 2007																																																		
			SAMAKA (merged to LABAKAFIA) 2007																																																		
			Subtotal				2655.0	88	88	88	88	88	88	88	88	2,754	1,114	1,191	840	0	3,145	38	27	35		46.8	46.8																										
			2	Padada																																																	
																													LAPOSA	325.8	22	22	22	22	22	22	22	22	22	22	390	131	69	190	5	395	17	48	34	No IMT Contract in Dec. 2008		11.6	11.6
																													Upper Sinayawan FIA (UPSFIA)	398.2	27	27	27	27	27	27	27	27	27	27	456	209	79	170	6	435	17	37	45		9.4	9.4	
																													BIA	660.8	34	34	34	34	34	34	34	34	34	34	599	150	42	400	17	609	7	66	27		9.7	9.7	
BASISFIA/HUFIA	446.0	38																											38	38	38	38	38	38	38	38	38	463	200	277	3	10	490	57	1	43		9.7	9.7				
San Miguel IA (SMIA)	80.4	6																											6	6	6	6	6	6	6	6	6	91	30	40	21	0	91	44	23	33		2.4	2.4				
SAKUPI	153.4	10																											10	10	10	10	10	10	10	10	10	268	100	29	150	11	270	11	48	41		42.9	42.9				
Subtotal				2064.5	137	137	137	137	137	137	137	137	2,267	811	536	914	49	2,310	23	40	37		42.9	42.9																													

Table C1-262-1 Summary of IA O & M Performance (Region II)

Region No.	NIS	IA	Crop Season	Service area (ha) 2008	Program area (ha)								Irrigated and planted area (ha)								Benefited Area (ha)			
					2004	2005	2006	2007	2008	Ratio	2004	2005	2006	2007	2008	Ratio	2004	2005	2006	2007	2008			
II	I Mat Left Main Canal	SAFIA	Wet	254.5	230.48	246.34	247.20	247.20	246.40	97	245.5	250.27	243.92	245.94	247.43	97	235.1	200.1	197.4	239.1	235.9			
			Dry	254.5	200.00	240.48	240.22	239.62	240.42	94	225.5	242.56	243.13	245.88	248.72	98	225.5	220.6	232.9	232.9	241.2			
			Banana Wet																					
			Banana Dry																					
			Wet	144.0	140.76	141.26	141.30	141.26	135.26	93	139.2	136.95	134.75	137.81	136.85	95	137.9	130.9	109.1	137.8	133.3			
			Dry	144.0	130.00	130.00	130.30	130.00	138.00	96	144.0	134.99	136.82	138.67	136.67	95	144.0	134.8	77.8	138.7	135.9			
			Banana Wet																					
			Banana Dry																					
			Wet	139.0	140.50	129.40	125.30	134.24	125.60	88	127.4	125.958	129.6	125.15	120.9	87	118.9	126.0	129.6	125.2	120.9			
			Dry	139.0	117.00	118.20	122.30	113.36	125.00	90	132.0	122.46	123.48	125.42	124.3	89	132.0	122.5	123.5	125.4	124.3			
Banana Wet																								
Banana Dry																								
Wet	186.9	200.34	230.34	170.34	181.34	169.00	90	189.3	180.83	190.4	174.64	172	92	168.3	165.2	185.1	174.6	170.7						
Dry	186.9	139.00	159.00	169.00	158.00	170.34	91	186.9	185.52	179.05	177.62	174.44	93	186.9	179.1	173.0	172.6	170.1						
Banana Wet																								
Banana Dry																								
Wet	321.5	261.48	309.12	295.00	299.00	386.32	120	322.5	310.73	316.64	303.84	295.56	92	317.1	273.9	289.8	303.8	295.6						
Dry	321.5	220.00	278.20	292.00	268.00	281.00	87	321.5	318.36	307.81	298.15	296.39	92	321.5	318.4	307.8	294.6	296.4						
Banana Wet																								
Banana Dry																								
Wet	139.1	140.14	135.14	131.14	137.00	151.14	109	134.8	130.15	135.19	131.36	130.16	94	129.2	114.6	131.6	131.4	130.2						
Dry	139.1	121.00	126.00	130.00	104.14	150.00	108	139.1	132.33	132.23	132.66	131.51	95	139.1	132.3	129.1	129.6	131.5						
Banana Wet																								
Banana Dry																								
Wet																								
Dry																								
Banana Wet																								
Banana Dry																								
Wet	175.5	175.68	170.30	170.15	182.30	170.30	97	175.0	175.46	171.02	169.44	168.76	96	69.6	145.7	163.9	155.2	168.8						
Dry	175.5	160.00	165.38	165.53	153.38	165.38	94	170.8	96.14	171.97	169.12	153.97	88	170.8	69.5	100.7	169.1	154.0						
Banana Wet																								
Banana Dry																								
Wet	359.0	300.20	302.20	315.00	318.00	316.20	88	351.6	339.08	340.39	307.52	303.59	85	268.5	309.1	339.4	306.5	303.6						
Dry	359.0	229.00	297.80	345.00	283.20	315.00	88	351.7	335.64	338.54	304.79	304.8	85	351.7	292.8	333.7	321.3	304.8						
Banana Wet																								
Banana Dry																								
Wet	332.7	299.84	274.25	272.00	288.40	263.84	79	264.2	265.5	286.32	275.34	275.34	83	255.2	244.4	261.7	281.6	274.7						
Dry	332.7	200.00	270.25	273.84	237.44	281.06	84	261.0	253.52	266.06	69.48	273.56	82	261.0	252.0	257.1	69.5	273.6						
Banana Wet																								
Banana Dry																								
Wet	24.7	39.30	35.30	60.22	-	-	0	28.0	29.25	13.25			0	28.0	29.3	7.8								
Dry	24.7	10.00	14.00	49.00				261.0	26.15	26.4			0	261.0	26.2	26.4								
Banana Wet																								
Banana Dry																								
Wet	49.1	60.24	42.35	58.80	-	-	0	51.5	49.92	39.38			0	51.5	48.2	24.0								
Dry	49.1	38.00	61.55	40.26			0	1.9	44.74	46.88			0	44.7	44.2									
Banana Wet																								
Banana Dry																								
Wet	95.1	100.90	100.40	94.25	97.45	92.40	97	95.3	93.5	39.38	91.67	93.3	10	78.3	48.2	76.8	85.7	93.3						
Dry	95.1	82.00	82.50	90.65	85.45	90.50	95	94.2	72.16	96.29	74.54	35.78	38	94.2	59.6	73.1	68.8	35.8						
Banana Wet																								
Banana Dry																								
Wet	160.6	161.80	148.40	135.40	158.54	146.40	91	160.0	161.26	92.32	140.86	144.57	90	151.7	89.1	144.9	139.9	144.6						
Dry	160.6	124.00	137.40	156.40	123.00	139.40	87	159.4	73.42	155.55	134.60	139.1	87	159.4	57.7	111.5	133.7	139.1						
Banana Wet																								
Banana Dry																								
Wet	278.2	291.26	289.10	235.50	238.10	248.26	89	248.8	250.48	244.29	250.96	247.2	89	248.8	152.6	241.8	249.6	247.2						
Dry	278.2	200.00	206.90	254.50	253.16	243.00	87	259.2	252.25	250.54	243.44	245.44	88	259.2	252.1	248.0	243.4	245.4						
Banana Wet																								
Banana Dry																								
Wet	49.0	68.96	65.96	60.16	52.40	53.88	110	59.7	55.77	50.07	47.22	46.16	94	51.9	44.8	40.6	47.2	46.2						
Dry	49.0	30.00	55.00	75.00	46.56	67.08	137	47.0	52.42	55.57	42.6	42.6	87	47.0	43.3	39.8	42.6	42.6						
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Table C1-262-1 Summary of IA O & M Performance (Region 11)

Region No.	NIS	IA	Crop Season	Service area (ha)		Program area (ha)								Irrigated and planted area (ha)								Benefited Area (ha)				
				2008	2008	2004	2005	2006	2007	2008	2008	2004	2005	2006	2007	2007	2008	2008	2004	2005	2006	2007	2008			
			Banana Dry	2,708.8	2,611.9	2,619.9	2,511.8	2,475.2	2,500.0	91	2,592.6	2,555.1	2,425.9	2,412.7	2,297.9	85	2,310.0	2,119.9	2,343.5	2,377.6	2,364.8					
			Wet	2,708.8	2,000.0	2,342.7	2,534.0	2,195.3	2,406.2	90	2,753.3	2,342.7	2,532.3	2,143.1	2,307.3	86	2,753.3	2,205.5	2,276.7	2,099.5	2,294.7					
			Dry																							
2	Padada																									
		LAPOSA	Wet	325.8	312.56	315.18	324.46	321.23	323.23	99	321.6	317.0	317.3	316.5	316.2	97	321.6	317.0	304.7	316.5	316.2					
			Dry	325.8	313.93	313.58	314.23	323.23	323.23	99	329.5	311.8	317.3	318.7	319.4	98	329.5	311.8	317.3	318.7	319.4					
		Upper Sinayawan FIA (UPSFIA)	Wet	398.2	389.01	391.34	388.79	397.79	398.79	100	405.0	396.5	375.6	390.7	390.6	98	405.0	396.5	375.6	390.7	390.6					
			Dry	398.2	390.89	390.24	390.69	398.79	398.79	100	401.3	392.1	375.6	390.5	390.7	98	401.3	392.1	375.7	390.5	390.7					
		BIA	Wet	325.8	683.86	688.04	692.51	690.51	692.19	212	699.1	672.2	639.4	646.6	650.9	200	699.1	672.2	639.4	646.6	650.9					
			Dry	325.8	685.51	685.18	686.51	691.51	692.51	213	699.7	648.4	639.4	630.2	648.1	199	699.7	648.4	639.4	630.2	648.1					
		BASISFIA/ HUPIA	Wet	446.0	442.93	445.12	447.23	446.63	447.23	100	447.1	449.8	450.1	439.8	440.8	99	447.1	449.8	450.1	439.8	440.8					
			Dry	446.0	443.80	443.38	444.23	447.13	447.23	100	447.4	446.5	450.1	436.9	442.5	99	447.4	446.5	450.1	436.9	442.5					
		San Miguel IA (SMIA)	Wet	80.4	80.40	80.40	80.40	80.40	80.40	100	80.4	80.4	80.4	80.4	80.4	100	80.4	80.4	80.4	80.4	80.4					
			Dry	80.4	80.40	80.40	80.40	80.40	80.40	100	80.4	80.4	80.4	80.4	80.4	100	80.4	80.4	80.4	80.4	80.4					
		SAKUPI	Wet	153.4	150.20	152.37	153.16	152.26	152.73	100	151.9	149.1	140.3	139.8	152.1	99	151.9	149.1	140.3	139.8	152.1					
			Dry	153.4	151.35	150.73	151.35	152.67	152.73	100	153.4	140.1	140.3	150.7	150.3	98	153.4	140.1	140.3	150.7	150.3					
		Banana Area	Wet	455.9	397.89	397.89	397.89	397.89	397.89	87	397.9	427.4	427.4	454.9	397.9	87	397.9	427.4	427.4	454.9	397.9					
			Dry	455.9	397.89	397.89	397.89	397.89	397.89	87	397.9	427.4	427.4	454.9	397.9	100	397.9	427.4	427.4	454.9	397.9					
		Individual Banana Grower, IA Covered	Wet											58.0												
			Dry																							
		Subtotal	Wet	2,185.4	2,456.9	2,470.3	2,494.4	2,186.7	2,492.5	98	2,503.0	2,492.3	2,430.5	2,468.6	2,428.9	97	2,503.0	2,492.3	2,417.9	2,468.6	2,428.9					
			Dry	2,185.4	2,463.4	2,461.4	2,465.3	2,491.6	2,492.8	98	2,509.5	2,446.7	2,430.5	2,462.2	2,487.3	99	2,509.5	2,446.7	2,430.6	2,462.2	2,487.3					

Table C1-263 Summary of IA Functionality for the Irrigation Service (Region 11)

Region No.	NIS	IA	Average Ratings on Evaluated Functionality of IA						Evaluation in 2008	Breakdown of Average Ratings in 2008				Additional
			2004	2005	2006	2007	2008	O & M		Organization	Financial	Organizational	Total	
11	1	Mal							40	15	30	15	100	12
	1	SAFIA	90.6	90.6	77.5	93.6	93.6	VS	37.4	13.8	24.6	12.9	88.6	5.0
	2	LAGOMIA	91.6	91.6	77.7	92.4	92.4	VS	38.0	12.3	22.8	14.3	87.4	5.0
	3	KIMIA	91.6	91.6	89.3	92.4	92.4	VS	38.0	12.3	22.8	14.3	87.4	5.0
	4	MAMDASBIA	91.2	91.2	86.2	91.7	91.8	VS	37.4	12.3	22.8	14.3	86.8	5.0
	5	LISA	94.2	92.6	86.3	96.7	96.7	O	38.0	13.8	25.7	14.3	91.7	5.0
	6	KAPOC	90.5	90.5	78.2	84.0	83.9	S	36.1	10.7	20.1	12.0	78.9	5.0
	7	LOTOFIA	89.5	88.4	86.1	83.6	83.6	S	37.4	10.0	17.1	12.1	76.6	7.0
	8	BURLAN	90.7	88.1	87.5	91.7	91.7	VS	38.0	12.1	20.3	14.3	84.7	7.0
	9	LABAKAFIA	92.4	96.0	94.5	96.2	96.2	O	38.0	13.6	23.3	14.3	89.2	7.0
	10	TIFIA	86.9	88.2	81.7	83.6	83.6	S	37.4	10.0	17.1	12.1	76.6	7.0
	11	WESLASUFIA	87.1	92.4	86.0	84.2	84.2	S	38.0	10.0	17.1	12.1	77.2	7.0
	12	KABULA	89.7	86.3	80.4	92.6	92.5	VS	38.0	12.0	21.1	14.3	85.5	7.0
	13	KAMOFIA	86.0	84.6	81.8	83.6	83.6	S	37.4	10.0	17.1	12.1	76.6	7.0
	14	MALKAIRA	83.9	82.9	41.6									
	15	SAMAKA	83.9	81.4	43.6									
	16	Subtotal	89.3	89.1	78.6	89.7	89.7	VS	37.6	11.8	20.9	13.3	83.6	6.1
					87.3				94%	78%	70%	89%	84%	51%
	2	Padada												
		LAPOSA	79.7	79.7	16.6	52.8	52.8	P	33.0	8.9	2.7	5.0	52.8	3.3
		Upper Sinayawan FIA (UPS FIA)	105.9	105.9	107.8	81.9	81.9	S	37.4	12.1	18.2	7.9	81.9	6.3

Table C1-263 Summary of IA Functionality for the Irrigation Service (Region 11)

Region No.	NIS	IA	Average Ratings on Evaluated Functionality of IA							Breakdown of Average Ratings in 2008					Additional
			2004	2005	2006	2007	2008	Evaluation in 2008	O & M	Organization	Financial	Organizational	Total		
			84.1	84.1	16.8	52.6	52.6	P	40	15	30	15	100	12	
		BIA	84.1	84.1	16.8	52.6	52.6		P	33.0	8.9	2.7	5.0	52.6	3.0
		BASISFIA/HUPIA	80.0	80.0	21.1	53.3	53.3		P	33.4	9.1	3.7	5.0	53.3	2.0
		San Miguel IA (SMIA)	64.1	64.1	62.9	80.9	80.9		S	46.2	11.6	9.9	5.7	80.9	7.5
		SAKUPI	70.3	70.3	25.9	41.8	41.8		P	33.0	1.4			41.8	6.0
		BANANA													
		Individual Banana Grower, IA Covered													
		Subtotal	80.7	80.7	41.8	60.6	60.6		P	36.0	8.7	6.2	4.8	60.6	4.7
					64.9					90%	58%	21%	32%	61%	39%

Annex C-1 (Part-2)

IA Profile, O&M Performance and Functionality in Region 12

Table C1-271-1 Summary of IA Profile (Region 12)

Region No.	NIS	IA	Location (mailing Address)	Service area (ha)		TSAG (unit)					Ave. ha	Reactivation of TSAG Date	SEC. Registration Date	Farmers / Benef. in Service	IA member (2)					Membership (%)				
				2008	2008	2004	2005	2006	2007	2008					2004	2005	2006	2007	2008	2004	2005	2006	2007	2008
		11 Double GI IA (formerly LAGFIA IA)	Calocan, Koronadal City	89.4	7	7	7	9	9	10	03/06/08	06/26/08	105	61	61	61	96	105	58	58	91	100		
		12 New Lambunaoon IA (formerly LANIA)	New Lambunao, Tantanagan, So.	129.7	5	5	5	4	4	32	03/06/08	6/26/08	115	81	81	81	81	81	70	70	70	70		
		13 Parbangon IA (formerly BANNAWAG IA)	Cabuling, Tantanagan, So. Cot.	137.8	7	7	7	6	6	23	01/14/08	09/02/08	116	116	116	116	116	100	100	100	100	100		
		14 Cabuling-New Lambunao IA (UNIFIA)	Cabuling, Tantanagan, So. Cot.	109.1	3	3	3	3	3	36	05/17/84	07/09/04	71	44	44	44	44	62	62	62	62	62		
		15 DAGYAW IA	Cabuling, Tantanagan, So. Cot.	107.4	7	7	7	7	7	15	03/12/08	06/30/08	101	101	101	101	101	100	100	100	100	100		
		16 PACMACIA IA (formerly MAHARLIKA IA)	Cabuling, Tantanagan, So. Cot.	36.9	1	1	1	1	1	37	04/20/06	12/22/06	37	17	17	17	17	0	0	0	46	46		
		17 KANO-PALAYAN (42007)		1,864.6	106	100	106	117	117	16			1,568	1,172	1,225	1,262	1,314	1,323	81	84	86	86		
		Subtotal																						
		5 MARBEL 2 RIS																						
		Handum, IA (formerly NAFIA)	Namama, Koronadal City	82.6	4	4	4	4	4	21	01/15/08	09/01/08	83	83	83	83	83	100	100	100	100	100		
		Palay-Gulayan IA (formerly AVIA)	Namama, Koronadal City	157.0	11	11	11	11	11	14	07/10/08	09/09/08	149	136	136	147	147	147	91	91	99	99		
		MABINUNGAHON	Avanceña, Koronadal City	93.5	5	5	5	5	5	19	06/10/04	06/16/04	67	67	67	67	67	100	100	100	100	100		
		Manever IA (formerly ROTAVA IA)	San Jose, Koronadal City	95.4	6	6	6	7	7	14	05/09/08	09/02/08	78	71	71	71	78	91	91	91	91	100		
		Lentidels IA (formerly SIRIA)	San Jose, Koronadal City	182.9	14	14	14	14	14	13	07/14/08	09/29/08	121	105	105	105	105	121	87	87	87	100		
		FLAGLEAF	Blingkong, Lutayan, S. K.	41.7	3	3	3	3	3	14	07/21/08	09/02/08	37	37	37	37	37	100	100	100	100	100		
		San Gregorio-Blingkong IA (formerly Sagod IA (formerly TLAFIA))	Avanceña, Koronadal City	107.9	7	7	7	7	7	15	01/16/08	06/30/08	84	84	84	84	84	100	100	100	100	100		
		N & M IA (formerly SULKUSOCO IA)	Manili, Lutayan, S. K.	197.7	28	28	28	11	11	18	06/18/08	09/08/08	171	120	120	120	120	70	70	70	70	70		
		Last Leaf IA (formerly MAFIRAS IA)	Manili, Lutayan, S. K.	177.1	10	10	10	11	11	16	08/01/08	09/17/08	113	108	108	108	108	96	96	96	96	96		
		Blingkong-Tannag IA (formerly TABLIA)	Lutayan, Sultan Kudarat	85.0	6	6	6	4	4	21	12/09/08	07/27/08	81	81	81	81	81	100	100	100	100	100		
		DEW DROPS	Lutayan, Sultan Kudarat	228.7	10	10	10	9	9	25	06/15/08	07/27/08	126	126	126	126	126	100	100	100	100	100		
		Nassun-at IA (formerly NAPLAN IA)	Tannag, Lutayan, S. K.	105.7	6	6	6	7	7	15	02/12/08	06/26/08	105	101	101	101	105	96	96	96	100	100		
		Subtotal		1,640.5	115	115	115	98	98	17			1,268	1,170	1,170	1,183	1,187	1,210	88	88	88	89		
		6 SILUAY-BUAYAN RIS																						
		Katangawan-Sagana FIA	Katangawan, GSC	200.0	5	5	5	5	5	40	06/15/83	01/01/84	76	43	43	76	76	76	76	76	76	100		
		Nursery FIA	Lagao, GSC	110.0	9	9	9	9	9	22	05/10/87	07/20/88	76	76	76	76	76	76	76	76	76	100		
		Napal-Contal Road FIA	Lagao, GSC	170.0	5	5	5	3	3	57	06/06/88	01/26/89	80	73	80	80	80	79	79	79	79	99		
		Matatag FIA	San Isidro, GSC	120.0	3	3	3	3	3	40	08/27/88	02/13/89	114	86	86	96	96	96	96	96	96	67		
		General Santos FIA	San Isidro, GSC	180.0	6	6	6	6	7	26	11/13/86	02/27/87	112	103	103	103	103	111	99	99	99	99		
		Lagao-Bula IA (formerly Golden Grain FIA)	Lagao, GSC	90.0	7	7	7	7	7	30	04/23/08	09/01/08	52	52	52	52	52	51	51	51	51	98		
		Green Field FIA (formerly Gintong Ani FIA)	Baluan, GSC	160.0	6	6	6	6	6	27	01/11/08	03/14/08	73	73	73	73	73	73	73	73	73	100		
		Baluan-Lagao FIA	Baluan, GSC	80.0	3	3	3	3	3	4	12/01/83	04/27/84	60	27	60	54	54	59	59	59	59	98		
		Baluan-Buayan FIA	Baluan, GSC	110.0	5	5	5	5	5	22	04/13/83	11/11/83	83	50	50	81	81	77	77	77	77	93		
		Buayan RIS FIA	Lugaya, GSC	200.0	17	17	17	17	13	15	09/29/79	08/29/79	125	112	112	112	112	112	112	112	112	90		
		Subtotal		1,420.0	66	66	66	64	54	26			851	695	793	803	803	790				93		

Table C1-272-1 Summary of IA O & M Performance (Region 12)

Region No.	NIS	IA	Crop Season	Service area (ha)	Program area (ha)					Irrigated and planted area (ha)					Benefited Area (ha)							
					2008	2004	2005	2006	2007	2008	Ratio	2004	2005	2006	2007	2008	Ratio	2004	2005	2006	2007	2008
12	1	LAMBAYONG RIS PAKAT (Organized 2006)	Wet	88.0	0.0	0.0	0.0	86.0	87.0	99%	0.0	0.0	87.8	87.3	87.9	100%	0.0	0.0	87.9	87.3	87.9	
			Dry	88.0	0.0	0.0	0.0	0.0	86.0	87.0	98%	0.0	0.0	0.0	88.0	87.9	100%	0.0	0.0	87.9	88.0	87.9
			Wet	223.2	303.2	313.2	215.0	216.0	224.0	224.0	99%	303.2	313.4	226.4	223.9	223.9	99%	272.9	313.4	209.6	212.5	223.9
			Dry	223.2	303.0	303.0	302.0	86.0	216.0	216.0	96%	303.2	302.2	304.0	201.7	223.9	99%	301.9	302.2	274.4	190.4	220.6
			Wet	428.2	393.3	393.0	393.0	393.0	376.0	376.0	88%	374.6	374.6	374.4	376.5	376.0	88%	338.8	365.6	369.5	368.5	352.0
			Dry	428.2	385.0	385.0	317.0	317.0	332.0	332.0	78%	360.8	360.8	360.8	332.1	332.1	78%	326.8	317.4	301.6	291.8	270.7
			Wet	147.0	117.0	117.0	117.0	117.0	124.0	124.0	84%	117.0	124.3	124.0	122.8	122.8	84%	105.3	124.3	124.0	122.0	122.8
			Dry	147.0	95.0	95.0	76.0	76.0	76.0	76.0	52%	117.5	103.8	103.8	75.6	76.0	52%	96.5	60.9	48.9	26.1	48.4
			Wet	368.4	100.0	350.0	350.0	350.0	369.0	369.0	100%	350.0	369.0	368.4	368.4	325.0	88%	315.0	360.6	362.2	346.5	325.0
			Dry	368.4	260.0	260.0	202.0	202.0	201.0	201.0	55%	302.0	255.1	255.1	200.6	203.0	55%	277.4	174.1	161.6	125.8	181.8
			Wet	182.5	182.0	179.6	166.0	179.6	181.0	181.0	95%	177.4	177.4	179.6	181.7	20.5	11%	159.7	177.4	177.4	174.8	20.5
			Dry	182.5	165.3	135.0	135.0	135.0	150.0	150.0	82%	168.0	173.3	171.7	150.3	120.3	66%	133.0	161.3	62.9	55.3	83.5
			Wet	152.0	100.0	148.5	150.0	148.5	148.5	148.5	98%	150.7	151.0	151.7	152.0	0.0	100%	135.6	151.0	147.9	126.0	0.0
			Dry	152.0	145.3	148.5	148.5	148.5	81.0	81.0	53%	160.0	148.5	133.0	80.3	81.0	53%	101.4	133.4	31.3	19.4	59.9
			Wet	213.0	213.0	213.0	213.0	213.0	213.0	213.0	100%	129.8	213.2	213.0	213.0	0.0	100%	100.2	135.2	184.3	97.4	0.0
			Dry	213.0	0.0	0.0	50.0	50.0	50.0	50.0	23%	0.0	0.0	0.0	50.0	50.0	23%	0.0	0.0	0.0	0.0	0.0
			Wet	403.3	403.3	370.0	321.0	370.0	370.0	370.0	92%	403.3	370.3	388.3	388.3	0.0	96%	333.9	336.3	378.4	279.8	0.0
			Dry	403.3	320.0	320.0	321.0	321.0	321.0	321.0	80%	320.0	320.2	200.0	200.0	200.0	50%	141.4	84.6	25.8	3.1	24.7
			Wet	560.9	319.6	105.5	112.0	105.5	105.5	105.5	19%	107.8	200.2	350.0	287.4	0.0	51%	84.5	102.2	275.0	138.4	0.0
			Dry	560.9	106.3	106.3	105.0	93.0	93.0	93.0	17%	96.0	105.5	60.0	56.4	93.0	17%	82.6	60.7	30.1	32.0	61.6
			Wet	334.8	321.3	324.0	333.0	324.0	333.0	333.0	99%	335.6	336.0	334.8	331.0	331.0	99%	302.0	331.4	332.6	305.9	331.0
			Dry	334.8	324.0	333.0	333.0	333.0	333.0	333.0	99%	334.8	334.8	334.8	334.8	331.0	99%	321.1	331.9	321.8	309.7	325.0
			Wet	452.7	451.0	451.0	464.0	451.0	454.0	454.0	100%	453.4	452.1	452.7	453.7	453.7	100%	408.0	441.3	448.2	453.7	453.7
			Dry	452.7	451.0	451.0	452.0	452.0	452.0	452.0	100%	451.0	452.2	453.8	453.7	453.7	100%	447.3	441.3	428.6	409.4	417.6
			Wet	425.5	288.0	288.0	283.0	414.0	414.0	414.0	97%	295.0	296.6	294.5	425.3	425.3	100%	265.5	280.7	0.0	425.3	452.0
			Dry	425.5	131.0	131.0	0.0	0.0	0.0	0.0	0%	129.4	130.9	0.0	0.0	0.0	0%	116.5	0.0	280.6	376.5	425.3
			Wet	131.0	131.0	131.0	131.0	131.0	131.0	131.0	100%	131.0	131.6	130.8	0.0	0.0	0%	131.0	131.6	130.8	0.0	0.0
			Dry	131.0	223.8	223.0	209.0	223.0	223.0	223.0	126%	223.8	223.0	220.4	285.7	285.2	125%	188.8	221.9	220.4	224.6	265.0
			Wet	228.4	194.0	194.0	187.0	187.0	187.0	187.0	82%	198.4	187.5	189.2	186.8	194.4	87%	175.7	184.3	169.8	125.4	182.1
			Dry	228.4	216.8	219.0	210.0	219.0	218.0	218.0	99%	219.0	218.4	217.6	217.1	162.8	74%	197.1	218.4	211.8	211.8	162.8
			Wet	220.6	219.0	219.0	203.0	200.5	200.0	200.0	91%	219.5	203.1	201.0	200.5	200.5	91%	169.4	176.6	120.4	76.9	90.9
			Dry	220.6	225.1	225.0	220.0	225.0	224.0	224.0	99%	221.8	224.5	224.1	224.1	151.3	67%	202.3	218.0	224.1	166.1	151.3
			Wet	225.6	170.0	170.0	181.0	172.1	172.0	172.0	76%	176.3	181.6	172.1	172.1	172.1	76%	145.8	150.9	76.4	73.4	172.1
			Dry	225.6	567.8	371.0	567.8	520.0	520.0	520.0	56%	578.0	583.8	453.0	491.9	453.0	49%	480.6	462.8	423.8	351.5	443.1
			Wet	933.3	320.0	256.0	255.4	225.0	225.0	225.0	24%	463.0	256.2	263.5	225.4	225.4	24%	216.5	176.6	196.8	103.1	200.1
			Dry	933.3	237.8	190.8	167.0	190.8	250.0	250.0	92%	175.0	242.5	270.8	230.6	207.2	77%	129.7	191.8	237.9	136.2	162.8
			Wet	270.8	30.0	30.0	56.0	104.0	104.0	104.0	38%	93.0	56.7	73.8	83.8	104.0	38%	45.7	40.7	62.7	12.8	81.6
			Dry	270.8	198.0	175.0	160.0	175.0	175.0	175.0	87%	197.0	191.2	201.0	200.3	0.0	100%	159.3	146.7	171.9	43.4	0.0
			Wet	201.0	50.0	50.0	35.0	47.0	58.0	58.0	29%	49.0	35.3	64.8	57.9	88.4	34%	22.1	20.3	31.8	0.0	44.3
			Dry	201.0	179.3	180.0	150.0	180.0	185.0	185.0	100%	184.1	185.6	184.1	184.9	71.2	38%	165.7	181.4	184.1	177.3	71.2
			Wet	183.1	68.0	68.0	105.0	159.0	159.0	159.0	86%	67.9	105.9	159.2	158.7	158.9	86%	46.4	94.3	131.0	23.3	119.2
			Dry	183.1	214.3	218.0	239.0	218.0	217.0	217.0	100%	216.3	200.6	217.1	217.1	123.9	58%	193.1	173.3	208.2	200.8	121.9
			Wet	216.0	196.0	196.0	204.0	204.0	204.0	204.0	94%	198.8	204.3	189.7	204.2	204.0	94%	147.8	179.2	107.9	63.0	179.1
			Dry	216.0	481.9	437.0	310.0	437.0	437.0	437.0	84%	486.0	490.3	518.1	519.1	0.0	100%	407.1	449.1	429.3	332.3	0.0
			Wet	518.1	115.0	115.0	141.0	144.0	160.0	160.0	31%	115.3	140.8	180.3	160.4	160.4	31%	63.5	39.8	53.6	0.0	108.2
			Dry	518.1	116.0	116.0	116.0	116.0	116.0	116.0	58%	134.9	135.0	137.2	137.2	0.0	68%	116.6	126.4	126.2	58.3	0.0
			Wet	200.4	30.0	30.0	30.0	30.0	40.0	40.0	20%	30.0	30.0	47.2	40.0	40.8	20%	22.4	0.0	0.0	0.0	1.3
			Dry	200.4	363.0	452.0	335.0	452.0	450.0	450.0	100%	363.0	363.0	473.8	438.4	350.7	78%	319.9	310.3	421.6	407.0	350.7
			Wet	450.0	150.0	150.0	79.0	75.0	50.0	50.0	11%	0.0	79.1	79.4	0.0	0.0	11%	0.0	26.3	5.9	0.0	50.0
			Dry	450.0	387.8	387.8	402.0	387.8	372.0	372.0	76%	450.3	452.7	448.2	371.7	387.6	79%	398.1	375.6	433.5	295.3	385.9
			Wet	490.2	386.0	386.0	349.3	326.0	326.0	326.0	67%	352.0	387.8	304.3	308.1	299.5	61%	229.3	283.2	254.6	204.4	265.9
			Dry	490.2	117.6	117.6	112.0	117.0	117.0	117.0	99%	115.8	120.7	116.2	116.2	119.1	101%	100.8	105.9	116.0	116.0	119.1
			Wet	117.6	68.0	68.0	82.0	75.0	75.0	75.0	64%	0.0	81.8	75.9	30.0	75.0	64%	0.0	65.8	37.7	0.0	71.7
			Dry	117.6	238.4	238.0	238.0	238.0	128.0	128.0	83%	238.4	301.5	302.1	153.4	153.3	100%	207.5	301.0	298.5	145.1	153.3
			Wet	153.4	238.4	238.0	238.0	238.0	128.0	128.0	83%	238.4	301.5	302.1	153.4	153.3	100%	207.5	301.0	298.5	145.1	153.3

Table C1-272-1 Summary of IA O & M Performance (Region 12)

Region No.	NIS	IA	Crop Season	Program area (ha)										Irrigated and planted area (ha)										Benefited Area (ha)																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																	
				2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021	2022	2023	2024	2025	2026	2027	2028	2029	2030	2031	2032	2033	2034	2035	2036	2037	2038	2039	2040	2041	2042	2043	2044	2045	2046	2047	2048	2049	2050	2051	2052	2053	2054	2055	2056	2057	2058	2059	2060	2061	2062	2063	2064	2065	2066	2067	2068	2069	2070	2071	2072	2073	2074	2075	2076	2077	2078	2079	2080	2081	2082	2083	2084	2085	2086	2087	2088	2089	2090	2091	2092	2093	2094	2095	2096	2097	2098	2099	2100	2101	2102	2103	2104	2105	2106	2107	2108	2109	2110	2111	2112	2113	2114	2115	2116	2117	2118	2119	2120	2121	2122	2123	2124	2125	2126	2127	2128	2129	2130	2131	2132	2133	2134	2135	2136	2137	2138	2139	2140	2141	2142	2143	2144	2145	2146	2147	2148	2149	2150	2151	2152	2153	2154	2155	2156	2157	2158	2159	2160	2161	2162	2163	2164	2165	2166	2167	2168	2169	2170	2171	2172	2173	2174	2175	2176	2177	2178	2179	2180	2181	2182	2183	2184	2185	2186	2187	2188	2189	2190	2191	2192	2193	2194	2195	2196	2197	2198	2199	2200	2201	2202	2203	2204	2205	2206	2207	2208	2209	2210	2211	2212	2213	2214	2215	2216	2217	2218	2219	2220	2221	2222	2223	2224	2225	2226	2227	2228	2229	2230	2231	2232	2233	2234	2235	2236	2237	2238	2239	2240	2241	2242	2243	2244	2245	2246	2247	2248	2249	2250	2251	2252	2253	2254	2255	2256	2257	2258	2259	2260	2261	2262	2263	2264	2265	2266	2267	2268	2269	2270	2271	2272	2273	2274	2275	2276	2277	2278	2279	2280	2281	2282	2283	2284	2285	2286	2287	2288	2289	2290	2291	2292	2293	2294	2295	2296	2297	2298	2299	2300	2301	2302	2303	2304	2305	2306	2307	2308	2309	2310	2311	2312	2313	2314	2315	2316	2317	2318	2319	2320	2321	2322	2323	2324	2325	2326	2327	2328	2329	2330	2331	2332	2333	2334	2335	2336	2337	2338	2339	2340	2341	2342	2343	2344	2345	2346	2347	2348	2349	2350	2351	2352	2353	2354	2355	2356	2357	2358	2359	2360	2361	2362	2363	2364	2365	2366	2367	2368	2369	2370	2371	2372	2373	2374	2375	2376	2377	2378	2379	2380	2381	2382	2383	2384	2385	2386	2387	2388	2389	2390	2391	2392	2393	2394	2395	2396	2397	2398	2399	2400	2401	2402	2403	2404	2405	2406	2407	2408	2409	2410	2411	2412	2413	2414	2415	2416	2417	2418	2419	2420	2421	2422	2423	2424	2425	2426	2427	2428	2429	2430	2431	2432	2433	2434	2435	2436	2437	2438	2439	2440	2441	2442	2443	2444	2445	2446	2447	2448	2449	2450	2451	2452	2453	2454	2455	2456	2457	2458	2459	2460	2461	2462	2463	2464	2465	2466	2467	2468	2469	2470	2471	2472	2473	2474	2475	2476	2477	2478	2479	2480	2481	2482	2483	2484	2485	2486	2487	2488	2489	2490	2491	2492	2493	2494	2495	2496	2497	2498	2499	2500	2501	2502	2503	2504	2505	2506	2507	2508	2509	2510	2511	2512	2513	2514	2515	2516	2517	2518	2519	2520	2521	2522	2523	2524	2525	2526	2527	2528	2529	2530	2531	2532	2533	2534	2535	2536	2537	2538	2539	2540	2541	2542	2543	2544	2545	2546	2547	2548	2549	2550	2551	2552	2553	2554	2555	2556	2557	2558	2559	2560	2561	2562	2563	2564	2565	2566	2567	2568	2569	2570	2571	2572	2573	2574	2575	2576	2577	2578	2579	2580	2581	2582	2583	2584	2585	2586	2587	2588	2589	2590	2591	2592	2593	2594	2595	2596	2597	2598	2599	2600	2601	2602	2603	2604	2605	2606	2607	2608	2609	2610	2611	2612	2613	2614	2615	2616	2617	2618	2619	2620	2621	2622	2623	2624	2625	2626	2627	2628	2629	2630	2631	2632	2633	2634	2635	2636	2637	2638	2639	2640	2641	2642	2643	2644	2645	2646	2647	2648	2649	2650	2651	2652	2653	2654	2655	2656	2657	2658	2659	2660	2661	2662	2663	2664	2665	2666	2667	2668	2669	2670	2671	2672	2673	2674	2675	2676	2677	2678	2679	2680	2681	2682	2683	2684	2685	2686	2687	2688	2689	2690	2691	2692	2693	2694	2695	2696	2697	2698	2699	2700	2701	2702	2703	2704	2705	2706	2707	2708	2709	2710	2711	2712	2713	2714	2715	2716	2717	2718	2719	2720	2721	2722	2723	2724	2725	2726	2727	2728	2729	2730	2731	2732	2733	2734	2735	2736	2737	2738	2739	2740	2741	2742	2743	2744	2745	2746	2747	2748	2749	2750	2751	2752	2753	2754	2755	2756	2757	2758	2759	2760	2761	2762	2763	2764	2765	2766	2767	2768	2769	2770	2771	2772	2773	2774	2775	2776	2777	2778	2779	2780	2781	2782	2783	2784	2785	2786	2787	2788	2789	2790	2791	2792	2793	2794	2795	2796	2797	2798	2799	2800	2801	2802	2803	2804	2805	2806	2807	2808	2809	2810	2811	2812	2813	2814	2815	2816	2817	2818	2819	2820	2821	2822	2823	2824	2825	2826	2827	2828	2829	2830	2831	2832	2833	2834	2835	2836	2837	2838	2839	2840	2841	2842	2843	2844	2845	2846	2847	2848	2849	2850	2851	2852	2853	2854	2855	2856	2857	2858	2859	2860	2861	2862	2863	2864	2865	2866	2867	2868	2869	2870	2871	2872	2873	2874	2875	2876	2877	2878	2879	2880	2881	2882	2883	2884	2885	2886	2887	2888	2889	2890	2891	2892	2893	2894	2895	2896	2897	2898	2899	2900	2901	2902	2903	2904	2905	2906	2907	2908	2909	2910	2911	2912	2913	2914	2915	2916	2917	2918	2919	2920	2921	2922	2923	2924	2925	2926	2927	2928	2929	2930	2931	2932	2933	2934	2935	2936	2937	2938	2939	2940	2941	2942	2943	2944	2945	2946	2947	2948	2949	2950	2951	2952	2953	2954	2955	2956	2957	2958	2959	2960	2961	2962	2963	2964	2965	2966	2967	2968	2969	2970	2971	2972	2973	2974	2975	2976	2977	2978	2979	2980	2981	2982	2983	2984	2985	2986	2987	2988	2989	2990	2991	2992	2993	2994	2995	2996	2997	2998	2999	3000	3001	3002	3003	3004	3005	3006	3007	3008	3009	3010	3011	3012	3013	3014	3015	3016	3017	3018	3019	3020	3021	3022	3023	3024	3025	3026	3027	3028	3029	3030	3031	3032	3033	3034	3035	3036	3037	3038	3039	3040	3041	3042	3043	3044	3045	3046	3047	3048	3049	3050	3051	3052	3053	3054	3055	3056	3057	3058	3059	3060	3061	3062	3063	3064	3065	3066	3067	3068	3069	3070	3071	3072	3073	3074	3075	3076	3077	3078	3079	3080	3081	3082	3083	3084	3085	3086	3087	3088	3089	3090	3091	3092	3093	3094	3095	3096	3097	3098	3099	3100	3101	3102	3103	3104	3105	3106	3107	3108	3109	3110	3111	3112	3113	3114	3115	3116	3117	3118	3119	3120	3121	3122	3123	3124	3125	3126	3127	3128	3129	3130	3131	3132	3133	3134	3135	3136	3137	3138	3139	3140	3141	3142	3143	3144	3145	3146	3147	3148	3149	3150	3151	3152	3153	3154	3155	3156	3157	3158	3159	3160	3161	3162	3163	3164	3165	3166	3167	3168	3169	3170	3171	3172	3173	3174	3175	3176	3177	3178	3179	3180	3181	3182	3183	3184	3185	3186	3187	3188	3189	3190	3191	3192	3193	3194	3195	3196	3197	3198	3199	3200	3201	3202	3203	3204	3205	3206	3207	3208	3209	3210	3211	3212	3213	3214	3215	3216	3217	3218	3219	3220	3221	3222	3223	3224	3225	3226	3227	3228	3229	3230	3231	3232	3233	3234	3235	3236	3237	3238	3239	3240	3241	3242	3243	3244	3245	3246	3247	3248	3249	3250	3251	3252	3253	3254	3255	3256	3257	3258	3259	3260	3261	3262	3263	3264	3265	3266	3267	3268	3269	3270	3271	3272	3273	3274	3275	3276	3277	3278	3279	3280	3281	3282	3283	3284	3285	3286	3287	3288	3289	3290	3291	3292	3293	3294	3295	3296	3297	3298	3299	3300	3301	3302	3303	3304	3305	3306	3307	3308	3309	3310	3311	3312	3313	3314	3315	3316	3317	3318	3319	3320	3321	3322	3323	3324	3325	3326	3327	3328	3329	3330	3331	3332	3333	3334	3335	3336	3337	3338	3339	3340	3341	3342	3343	3344	3345	3346	3347	3348	3349	3350	3351	3352	3353	3354	3355	3356	3357

Table C1-272-1 Summary of IA O & M Performance (Region 12)

Region No.	NIS	IA	Crop Season	Service area (ha)	Program area (ha)										Irrigated and planted area (ha)										Benefited Area (ha)						
					2008	2004	2005	2006	2007	2008	2008	Ratio	2004	2005	2006	2007	2008	2008	Ratio	2004	2005	2006	2007	2008							
4	MARBEL I RIS	Morning Star IA (formerly PAGASA IA)	Wet	122.8	121.6	121.1	122.4	121.3	121.5	121.3	121.3	121.4	120.0	121.4	121.3	121.3	121.5	99%	119.8	120.0	120.0	121.3	121.5	121.5	121.3	121.5	121.3	121.6			
			Dry	122.8	121.4	120.0	121.4	121.3	122.8	100%	115.2	120.0	120.0	121.4	121.3	122.2	120.0	120.0	120.0	121.3	120.0	120.0	121.3	121.6	121.3	121.3	121.3	121.3	121.6		
			Wet	34.9	34.3	38.5	34.4	33.1	31.3	90%	32.6	32.2	34.4	31.6	31.3	32.2	31.3	32.2	90%	29.3	32.2	32.2	31.6	31.6	31.6	31.6	31.6	31.6	31.6		
			Dry	34.9	33.5	32.5	33.6	33.1	34.9	100%	31.4	32.7	33.6	33.1	33.8	33.6	33.8	33.6	100%	30.6	33.6	33.6	33.1	33.1	33.1	33.1	33.1	33.1	33.1		
			5	Sanisca IA (formerly San Isidro-Guadalupe FIA)	Wet	104.7	103.3	102.1	103.1	103.2	104.7	100%	101.2	100.9	103.1	104.8	104.7	100%	100.7	100%	102.5	100.7	100.7	104.8	104.8	104.8	104.8	104.8	104.8	104.8	
					Dry	104.7	103.3	100.0	101.9	103.2	104.7	100%	102.5	99.8	101.9	103.2	104.8	104.7	100%	100.7	100%	102.5	100.7	100.7	104.8	104.8	104.8	104.8	104.8	104.8	
			6	Modern FIA (-2008)	Wet	169.8	168.5	171.1	169.0	165.3	169.8	99%	168.9	163.0	166.4	168.2	167.3	165.5	167.2	98%	163.9	163.9	167.3	165.5	165.5	165.5	165.5	165.5	165.5	165.5	165.5
					Dry	169.8	168.5	171.1	169.0	165.3	169.8	100%	168.9	167.3	165.5	167.2	167.3	165.5	167.2	98%	163.9	163.9	167.3	165.5	165.5	165.5	165.5	165.5	165.5	165.5	165.5
			9	Barangay Zone III IA (formerly Extension Lateral IA)	Wet	39.1	38.9	41.0	39.1	37.0	38.3	98%	38.5	38.3	39.0	38.3	38.3	38.3	38.3	98%	37.5	37.5	38.3	38.3	38.3	38.3	38.3	38.3	38.3	38.3	
					Dry	39.1	38.9	37.5	38.3	37.0	39.1	100%	40.9	37.5	38.3	37.0	38.3	37.0	38.3	98%	37.5	37.5	38.3	38.3	38.3	38.3	38.3	38.3	38.3	38.3	
			11	Light Bringers IA (formerly Eastern Sto Nino IA)	Wet	85.3	83.4	86.8	85.6	82.1	79.3	93%	84.5	82.8	84.4	82.7	81.8	81.8	81.8	93%	79.3	79.3	84.4	82.7	82.7	82.7	82.7	82.7	82.7	82.7	
					Dry	85.3	83.4	86.8	85.6	82.1	85.3	100%	84.9	84.0	84.0	84.0	84.0	84.0	84.0	100%	83.6	83.6	84.0	84.0	84.0	84.0	84.0	84.0	84.0	84.0	
			12	Kaugvayan-Cinderella IA (formerly Lateral E. National)	Wet	62.1	58.1	61.4	61.2	53.7	56.3	91%	58.1	57.4	61.2	57.0	56.3	56.3	56.3	91%	57.4	57.4	61.2	57.0	57.0	57.0	57.0	57.0	57.0	57.0	
					Dry	62.1	58.1	61.4	61.2	53.7	56.3	100%	57.9	56.7	56.1	53.7	56.7	56.1	56.7	100%	57.9	56.7	56.1	53.7	53.7	53.7	53.7	53.7	53.7	53.7	
			14	Magic Flower IA (EVERLASTING IA)	Wet	127.0	126.3	131.3	127.9	124.2	121.8	127.0	96%	126.5	125.5	125.5	124.2	123.1	123.1	96%	125.5	125.5	125.5	124.2	124.2	124.2	124.2	124.2	124.2	124.2	124.2
					Dry	127.0	126.3	131.3	127.9	124.2	121.8	127.0	100%	127.6	126.5	125.5	124.2	123.1	123.1	100%	126.5	126.5	125.5	124.2	124.2	124.2	124.2	124.2	124.2	124.2	
			15	LAMSACA IA (formerly NESACA IA)	Wet	212.0	211.2	213.4	212.0	209.0	210.4	99%	210.1	211.0	211.0	210.4	210.4	210.4	210.4	99%	208.2	208.2	211.0	210.4	210.4	210.4	210.4	210.4	210.4	210.4	
					Dry	212.0	209.8	208.2	210.2	209.0	212.0	100%	207.7	208.2	210.2	210.2	210.2	210.2	210.2	100%	207.7	208.2	210.2	210.2	210.2	210.2	210.2	210.2	210.2	210.2	
			17	Mainawaon-Esperanza Poblacion IA (formerly PELIA)	Wet	53.8	53.0	52.8	53.8	52.8	52.8	98%	47.9	49.8	52.8	52.8	52.8	52.8	52.8	98%	42.3	42.3	48.4	52.8	52.8	52.8	52.8	52.8	52.8	52.8	
					Dry	53.8	53.0	52.8	53.8	52.8	52.8	100%	47.3	47.9	52.8	52.8	52.8	52.8	52.8	100%	40.2	40.2	48.4	52.8	52.8	52.8	52.8	52.8	52.8	52.8	
			34	MAHINUN-ANON	Wet	76.4	77.1	78.1	76.4	77.5	76.4	77.5	101%	76.4	76.4	76.4	76.4	76.4	76.4	101%	75.2	75.2	73.3	77.5	77.5	77.5	77.5	77.5	77.5	77.5	
					Dry	76.4	76.5	78.4	74.9	76.4	76.4	100%	78.5	78.6	78.6	78.6	78.6	78.6	78.6	100%	76.4	76.4	73.3	77.5	77.5	77.5	77.5	77.5	77.5	77.5	
			36	ROMALIA (-2008)	Wet	78.6	79.2	78.8	78.6	78.6	78.6	80.6	103%	78.6	78.6	78.6	78.6	78.6	78.6	103%	76.4	76.4	73.3	77.5	77.5	77.5	77.5	77.5	77.5	77.5	
					Dry	78.6	78.6	78.6	78.6	78.6	78.6	78.6	78.6	78.6	78.6	78.6	78.6	78.6	78.6	100%	76.4	76.4	73.3	77.5	77.5	77.5	77.5	77.5	77.5	77.5	
			37	Riflows IA (formerly LIBIA)	Wet	144.1	143.6	144.1	144.1	143.2	143.2	143.2	99%	143.6	143.6	143.6	143.6	143.6	143.6	99%	128.3	128.3	138.5	143.2	143.2	143.2	143.2	143.2	143.2	143.2	
					Dry	144.1	143.6	144.1	144.1	143.2	143.2	143.2	143.2	143.2	143.2	143.2	143.2	143.2	143.2	99%	128.3	128.3	138.5	143.2	143.2	143.2	143.2	143.2	143.2	143.2	
			39	Ileg IA (formerly GELIA)	Wet	97.2	97.8	98.2	97.2	96.5	97.2	96.5	99.2	96.7	96.7	96.5	96.5	96.5	99.2	102%	86.1	86.1	93.0	97.2	97.2	97.2	97.2	97.2	97.2	97.2	
					Dry	97.2	97.8	98.2	97.2	96.5	97.2	96.5	99.2	96.7	96.7	96.5	96.5	96.5	99.2	102%	86.1	86.1	93.0	97.2	97.2	97.2	97.2	97.2	97.2	97.2	
			42	Green Thumb IA	Wet	182.0	181.7	182.0	182.0	181.3	181.3	181.3	100%	181.8	181.8	181.3	181.3	181.3	181.3	100%	156.5	156.5	157.8	181.3	181.3	181.3	181.3	181.3	181.3	181.3	
					Dry	182.0	181.8	182.0	181.9	181.3	182.0	100%	182.0	181.9	181.9	181.3	181.3	181.3	181.3	100%	156.5	156.5	157.8	181.3	181.3	181.3	181.3	181.3	181.3	181.3	
			44	Dawn IA (formerly GUIFIA)	Wet	266.0	266.0	266.5	266.0	265.3	266.0	266.0	100%	266.3	265.3	265.3	266.0	266.0	266.0	100%	233.3	233.3	260.7	266.0	266.0	266.0	266.0	266.0	266.0	266.0	
					Dry	266.0	266.0	266.5	266.0	265.3	266.0	100%	266.3	265.3	265.3	266.0	266.0	266.0	266.0	100%	233.3	233.3	260.7	266.0	266.0	266.0	266.0	266.0	266.0	266.0	
			45	Subtotal	Wet	2,546.1	2,535.4	2,558.6	2,559.9	2,522.1	2,524.9	99%	2,458.4	2,540.9	2,536.3	2,539.1	2,524.9	2,524.9	99%	2,140.5	2,336.3	2,481.5	2,441.2	2,441.2	2,441.2	2,441.2	2,441.2	2,441.2	2,441.2		
					Dry	2,546.1	2,526.6	2,542.2	2,498.3	2,520.0	2,546.1	100%	2,516.4	2,495.3	2,486.6	2,520.0	2,508.4	2,508.4	2,508.4	99%	2,265.5	2,382.1	2,400.4	2,427.7	2,427.7	2,427.7	2,427.7	2,427.7	2,427.7		

Table C1-272-1 Summary of IA O & M Performance (Region 12)

Region No	NIS	IA	Crop Season	Service area (ha)	Program area (ha)								Irrigated and planted area (ha)								Benefited Area (ha)																			
					2008	2004	2005	2006	2007	2008	2008	Ratio	2004	2005	2006	2007	2008	2008	Ratio	2004	2005	2006	2007	2008	2008	Ratio														
5	MARBEL 2 RIS	Handum, IA (formerly NAFIA)	Wet	82.6	82.1	85.2	82.6	81.2	79.3	96%	72.1	80.1	82.6	78.0	79.3	96%	58.1	76.8	64.9	73.1	78.0	96%	131.3	131.3	127.4	127.4	95%	131.3	131.3	127.4	127.4	95%								
				82.6	79.7	74.2	80.8	81.2	82.6	100%	75.0	74.2	80.8	81.2	80.8	81.2	82.6	100%	59.4	72.7	75.3	71.3	73.9	100%	131.1	134.8	131.7	125.5	93%	131.1	134.8	131.7	125.5	93%						
				157.0	157.7	156.4	157.0	157.0	160.5	102%	149.1	155.8	155.2	154.6	155.2	154.6	160.5	102%	133.7	152.0	135.1	153.6	157.1	102%	147.1	142.3	153.6	142.1	98%	147.1	142.3	153.6	142.1	98%						
				6	SILUAY-BUAYAN RIS	Katangwan-Sagana FIA	Wet	200.0	202.4	197.5	199.5	210.0	184.7	92%	201.8	207.1	186.5	188.6	191.9	96%	201.8	207.1	186.5	201.8	188.5	96%	1,636.9	1,636.9	1,636.9	1,636.9	100%	1,636.9	1,636.9	1,636.9	1,636.9	100%				
								200.0	202.4	192.9	199.5	210.0	184.7	92%	187.4	189.0	164.5	163.4	163.4	184.7	92%	186.3	177.5	164.5	163.4	163.4	92%	1,494.8	1,494.8	1,494.8	1,494.8	100%	1,494.8	1,494.8	1,494.8	1,494.8	100%			
								120.0	86.9	96.9	106.5	105.0	113.1	94%	101.1	100.3	110.9	110.9	100.3	110.9	94%	100.3	110.9	100.3	110.9	100.3	94%	1,367.7	1,367.7	1,367.7	1,367.7	100%	1,367.7	1,367.7	1,367.7	1,367.7	100%			
								120.0	86.9	96.9	106.5	105.0	113.1	94%	88.4	101.8	95.9	103.4	103.4	103.4	94%	88.4	101.8	95.9	103.4	103.4	94%	1,367.7	1,367.7	1,367.7	1,367.7	100%	1,367.7	1,367.7	1,367.7	1,367.7	100%			
								170.0	163.5	160.6	168.7	174.0	167.1	98%	165.1	171.8	165.1	171.8	165.1	171.8	98%	165.1	171.8	165.1	171.8	165.1	98%	1,367.7	1,367.7	1,367.7	1,367.7	100%	1,367.7	1,367.7	1,367.7	1,367.7	100%			
								170.0	163.5	157.7	163.2	174.0	167.1	98%	163.2	174.0	163.2	174.0	163.2	174.0	98%	163.2	174.0	163.2	174.0	163.2	98%	1,367.7	1,367.7	1,367.7	1,367.7	100%	1,367.7	1,367.7	1,367.7	1,367.7	100%			
								120.0	104.2	113.1	114.0	120.0	93.2	78%	116.5	114.1	107.6	114.1	107.6	114.1	78%	116.5	114.1	107.6	114.1	107.6	78%	1,367.7	1,367.7	1,367.7	1,367.7	100%	1,367.7	1,367.7	1,367.7	1,367.7	100%			
								120.0	104.2	112.1	121.0	120.0	93.2	78%	115.9	97.6	132.9	95.9	97.6	132.9	95.9	78%	109.6	97.5	132.9	97.5	132.9	78%	1,367.7	1,367.7	1,367.7	1,367.7	100%	1,367.7	1,367.7	1,367.7	1,367.7	100%		
								Subtotal				1,864.3	1,803.8	1,795.2	1,795.8	1,796.8	1,864.3	100%	1,785.4	1,798.2	1,801.4	1,834.7	98%	1,465.7	1,795.2	1,652.4	1,639.2	1,611.2	98%	1,636.9	1,636.9	1,636.9	1,636.9	100%	1,636.9	1,636.9	1,636.9	1,636.9	100%	
								1				82.6	82.1	85.2	82.6	81.2	79.3	96%	72.1	80.1	82.6	78.0	96%	58.1	76.8	64.9	73.1	78.0	96%	131.3	131.3	127.4	127.4	95%	131.3	131.3	127.4	127.4	95%	
								2				82.6	79.7	74.2	80.8	81.2	82.6	100%	75.0	74.2	80.8	81.2	82.6	100%	59.4	72.7	75.3	71.3	73.9	100%	131.1	134.8	131.7	125.5	93%	131.1	134.8	131.7	125.5	93%
								3				157.0	157.7	156.4	157.0	157.0	160.5	102%	149.1	155.8	155.2	154.6	102%	133.7	152.0	135.1	153.6	157.1	102%	147.1	142.3	153.6	142.1	98%	147.1	142.3	153.6	142.1	98%	
								4				157.0	154.6	150.5	153.7	157.0	157.0	100%	233.2	150.5	153.7	157.1	157.0	100%	216.1	147.1	142.3	153.6	142.1	100%	147.1	142.3	153.6	142.1	98%	147.1	142.3	153.6	142.1	98%
								5				93.5	94.0	94.0	93.5	93.5	94.9	102%	93.2	93.5	93.5	93.5	102%	82.9	92.1	79.4	74.1	92.2	102%	92.1	90.3	92.1	90.3	99%	92.1	90.3	92.1	90.3	99%	
								6				93.5	93.4	93.2	93.5	93.5	94.2	99%	94.9	94.6	95.0	95.1	94.2	99%	82.8	92.1	90.3	93.4	92.6	99%	92.1	90.3	92.1	90.3	99%	92.1	90.3	92.1	90.3	99%
								7				95.4	95.2	96.1	95.4	95.1	94.2	99%	94.9	94.6	95.0	95.1	94.2	99%	82.8	92.1	90.3	93.4	92.6	99%	92.1	90.3	92.1	90.3	99%	92.1	90.3	92.1	90.3	99%
								8				95.4	95.1	95.3	94.7	95.1	95.4	100%	94.6	95.3	94.7	95.1	95.4	100%	91.1	91.1	91.1	91.1	91.1	100%	91.1	91.1	91.1	91.1	100%	91.1	91.1	91.1	91.1	100%
								9				182.9	182.0	186.7	182.9	180.4	177.8	97%	181.2	182.0	180.8	177.5	177.8	97%	161.3	172.8	173.3	176.3	176.3	97%	161.3	172.8	173.3	176.3	97%	161.3	172.8	173.3	176.3	97%
								10				182.9	181.8	182.2	181.7	180.4	182.9	100%	178.8	182.2	181.7	180.4	182.9	100%	170.8	170.4	164.4	164.4	164.4	100%	170.8	170.4	164.4	164.4	100%	170.8	170.4	164.4	164.4	100%
								11				41.7	42.7	43.8	42.7	42.1	42.3	101%	41.9	41.8	41.8	42.1	42.3	101%	35.9	39.1	37.6	41.1	37.9	101%	35.9	39.1	37.6	41.1	101%	35.9	39.1	37.6	41.1	101%
								12				41.7	41.8	41.8	41.8	42.1	41.7	100%	42.9	41.8	41.8	42.1	41.7	100%	41.1	41.1	41.1	41.1	41.1	100%	41.1	41.1	41.1	41.1	100%	41.1	41.1	41.1	41.1	100%
								13				85.2	85.2	85.9	85.2	84.9	84.8	100%	84.7	84.9	85.1	84.9	84.8	100%	71.1	79.4	82.8	78.6	82.8	100%	71.1	79.4	82.8	78.6	82.8	71.1	79.4	82.8	78.6	82.8
								14				85.2	84.9	85.0	84.4	84.9	85.2	100%	84.7	85.0	84.4	84.9	85.2	100%	80.8	81.4	80.6	81.4	80.6	100%	80.8	81.4	80.6	81.4	100%	80.8	81.4	80.6	81.4	100%
								15				107.9	108.6	109.2	107.9	110.0	107.1	99%	107.1	107.6	107.2	107.7	107.1	99%	93.9	104.6	103.7	103.7	103.7	99%	93.9	104.6	103.7	103.7	99%	93.9	104.6	103.7	103.7	99%
								16				107.9	107.7	106.5	106.4	110.0	107.9	100%	339.1	106.5	106.4	107.2	107.9	100%	304.2	105.4	103.7	103.7	103.7	100%	304.2	105.4	103.7	103.7	100%	304.2	105.4	103.7	103.7	100%
								17				197.7	200.8	210.1	197.7	197.2	198.2	100%	199.7	200.7	200.7	201.0	198.2	100%	180.7	182.2	180.8	182.2	180.8	100%	180.7	182.2	180.8	182.2	100%	180.7	182.2	180.8	182.2	100%
								18				197.7	198.9	199.5	201.1	197.2	197.7	100%	196.5	199.5	201.1	199.3	197.7	100%	179.8	191.9	190.4	190.4	190.4	100%	179.8	191.9	190.4	190.4	100%	179.8	191.9	190.4	190.4	100%
								19				176.9	179.6	182.0	176.9	178.8	180.5	102%	170.7	173.0	177.3	179.0	180.5	102%	149.8	152.6	156.2	156.2	156.2	102%	149.8	152.6	156.2	156.2	102%	149.8	152.6	156.2	156.2	102%
								20				176.9	174.6	171.1	171.7	178.8	176.9	100%	169.8	171.1	171.7	178.8	176.9	100%	160.8	171.1	152.3	170.6	136.8	100%	160.8	171.1	152.3	170.6	100%	160.8	171.1	152.3	170.6	100%
								21				85.0	84.8	85.0	85.0	85.0	84.5	99%	85.3	84.8	84.8	85.3	84.5	99%	71.6	75.8	80.0	82.3	78.8	99%	71.6	75.8	80.0	82.3	78.8	71.6	75.8	80.0	82.3	78.8
								22				85.0	84.8	85.0	84.3	85.0	85.0	100%	85.0	84.3	84.3	85.3	85.0	100%	76.1	82.3	82.3	82.3	82.3	100%	76.1	82.3	82.3	82.3	100%	76.1	82.3	82.3	82.3	100%
23								228.7	227.6	229.8	228.7	228.7	223.3	98%	228.1	227.6	227.8	228.7	223.3	98%	182.3	189.6	173.8	200.4	208.1	98%	182.3	189.6	173.8	200.4	98%	182.3	189.6	173.8	200.4	98%				
24								228.7	243.2	227.0	228.6	228.7	228.7	100%	228.1	227.6	227.8	228.7	223.3	98%	182.3	189.6	173.8	200.4	208.1	98%	182.3	189.6	173.8	200.4	98%	182.3	189.6	173.8	200.4	98%				
25								105.7																																

Table C1-272-1 Summary of IA O & M Performance (Region 12)

Region No.	NIS	IA	Crop Season	Service area (ha)		Program area (ha)										Irrigated and planted area (ha)										Benefited Area (ha)				
				2008	2007	2004	2005	2006	2007	2008	Ratio	2004	2005	2006	2007	2008	Ratio	2004	2005	2006	2007	2008								
9	General Santos FIA	Wet	180.0	100.2	126.4	151.1	159.0	155.7	87%	130.6	140.8	149.4	161.8	170.0	94%	130.6	140.8	149.4	158.5	170.0										
10		Dry	180.0	100.2	125.4	148.5	159.0	155.7	87%	100.6	156.3	132.9	149.9	169.1	94%	94.2	156.3	132.9	149.9	169.1										
11	Lagao-Bula IA (formerly Golden Grain FIA)	Wet	90.0	86.8	81.7	86.7	75.7	74.6	83%	86.7	91.6	70.2	75.6	85.8	95%	86.7	91.6	64.0	75.6	85.8										
12		Dry	90.0	86.8	81.7	80.6	75.7	74.6	83%	143.6	84.8	71.7	67.1	84.7	94%	86.7	84.8	71.7	59.1	84.2										
13	Green Field FIA (formerly Gintong Ani FIA)	Wet	160.0	145.6	138.7	138.3	155.0	150.7	94%	143.6	142.7	155.0	151.7	153.0	96%	143.6	142.7	155.0	151.6	153.0										
14		Dry	160.0	145.6	137.9	136.1	155.0	150.7	94%	145.8	143.3	144.7	147.5	152.1	95%	137.9	141.3	144.7	128.7	152.1										
15	Bahian-Lagao FIA	Wet	80.0	47.3	51.3	52.3	56.7	69.7	87%	50.6	49.8	55.2	75.2	79.8	100%	50.6	49.9	55.2	74.0	79.8										
16		Dry	80.0	47.3	48.9	46.8	56.7	69.7	87%	79.2	49.3	79.2	55.3	78.2	98%	47.0	49.3	79.2	55.3	78.2										
17	Bahian-Buayan FIA	Wet	115.0	0.0	89.3	114.5	97.8	109.1	95%	79.2	99.5	97.8	110.8	108.8	95%	0.0	99.5	95.6	110.8	108.8										
18		Dry	115.0	0.0	76.0	84.1	97.8	109.1	95%	0.0	88.5	103.8	98.4	102.0	89%	0.0	64.0	100.8	98.4	102.0										
19	Buayan RIS FIA	Wet	220.0	0.0	170.9	159.1	189.3	201.3	91%	150.4	187.5	202.4	211.8	186.4	85%	0.0	187.5	189.0	195.1	186.4										
20		Dry	220.0	0.0	152.5	142.7	189.3	201.3	91%	0.0	150.2	113.9	184.4	208.6	95%	0.0	141.7	113.9	164.4	208.6										
Subtotal		Wet	1,455.0	936.8	1,226.3	1,290.6	1,342.6	1,319.2	91%	1,225.5	1,304.8	1,300.2	1,359.5	1,352.7	93%	995.9	1,304.9	1,278.3	1,335.6	1,352.7										
		Dry	1,455.0	936.8	1,181.9	1,170.9	1,342.6	1,319.2	91%	992.4	1,232.5	1,039.5	1,236.2	1,399.7	96%	901.5	1,174.0	1,205.0	1,189.4	1,399.2										

Table CI-272-2 Summary of IA.O & M Performance (Region 12)

Region	No.	NIS	IA	Crop Season	Service area (ha)	Crop Intensity (%)						Productivity (Yield) of Paddy (cav./ha)						Collection Efficiency of ISF, (Current Account Base)										
						2004	2005	2006	2007	2008	Average	2004	2005	2006	2007	2008	Average	2004	2005	2006	2007	2008	Average					
12	1	LAMBAYONG RIS				2008	88.0	0.0	0.0	99.8	99.2	99.9	99.6	0	0	53	91	72	0.0	0.0	54.1	79.2	69.4	67.6				
						2004	88.0	0.0	0.0	100.0	99.9	100.0	100.0	0	0	47	71	59	0.0	0.0	0.0	0.0	70.4	70.4	69.8	70.1		
						2005	225.2	99.6	100.1	100.5	99.4	99.4	96.4	87	87	97	84	84	62.4	54.6	47.5	38.6	37.4	34.8	34.8	34.8	34.8	
						2006	428.2	89.2	87.5	87.4	87.9	87.8	88.0	110	104	98	87	94	99	83.2	73.0	58.2	57.7	62.3	62.3	66.9	66.9	
						2007	428.2	85.9	74.1	86.6	77.6	77.6	80.4	85	85	60	53	75	72	64.1	61.5	37.3	43.0	50.7	50.7	51.3	51.3	
						2008	147.0	95.1	84.0	84.3	84.3	83.5	86.3	94	88	88	88	88	85	36.9	22.4	13.7	15.8	18.3	18.3	21.4	21.4	
						2009	368.4	87.5	98.1	100.0	100.0	88.2	94.8	106	86	96	96	86	89	67.5	55.0	44.2	28.8	28.8	53.1	49.3	49.3	
						2010	368.4	80.6	55.2	69.4	54.5	55.1	63.0	76	60	50	50	60	49	43.7	36.6	24.2	20.3	22.9	22.9	29.5	29.5	
						2011	182.5	97.5	97.2	98.4	99.6	11.2	80.8	95	89	89	74	0	69	82.9	64.6	62.8	55.4	44.7	62.1	62.1	62.1	62.1
						2012	152.0	94.2	124.4	99.8	100.0	0.0	104.6	93	85	85	56	0	64	60.8	45.9	54.5	48.7	0.0	52.5	52.5	52.5	52.5
						2013	152.0	100.0	122.3	83.1	58.8	53.3	82.3	75	70	44	49	60	60	49.3	37.4	25.9	45.6	51.1	41.8	41.8	41.8	41.8
						2014	213.0	54.0	88.2	100.0	100.0	0.0	85.5	83	85	85	0	0	63	73.2	26.0	51.4	42.6	0.0	48.3	48.3	48.3	48.3
						2015	213.0	96.5	88.9	96.3	96.3	23.5	9.4	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
						2016	403.3	96.5	88.9	96.3	96.3	23.5	9.4	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
						2017	403.3	77.3	48.0	49.6	49.6	49.6	44.9	73	72	46	45	0	47	93.4	83.6	38.4	138.9	31.2	77.1	77.1	77.1	77.1
						2018	560.9	19.2	33.4	62.4	51.2	0.0	41.6	85	79	79	55	0	60	95.7	85.2	51.3	37.0	0.0	53.8	53.8	53.8	53.8
						2019	560.9	16.6	10.7	10.1	16.6	11.0	11.0	75	88	48	46	80	67	23.8	36.1	14.1	6.3	17.5	19.6	19.6	19.6	19.6
						2020	334.8	103.5	106.3	100.0	98.9	98.9	101.5	101	89	89	48	88	83	58.4	55.5	55.0	70.0	64.6	60.7	60.7	60.7	60.7
						2021	334.8	105.6	106.0	100.0	100.0	98.9	82.1	82	70	55	52	66	65	56.9	43.6	38.0	47.3	56.2	48.4	48.4	48.4	48.4
						2022	452.7	100.1	99.8	100.0	100.2	100.1	100.2	103	101	101	100	87	98	68.6	63.3	59.6	76.6	65.6	66.7	66.7	66.7	66.7
						2023	452.7	99.8	100.1	100.0	100.2	100.1	100.2	86	72	48	54	74	67	57.9	51.2	32.3	49.2	52.3	48.6	48.6	48.6	48.6
						2024	425.5	102.3	102.9	100.0	100.0	99.9	101.0	102	97	97	76	84	91	53.1	55.9	57.9	39.3	49.5	51.1	51.1	51.1	51.1
						2025	425.5	101.9	102.1	100.0	100.0	100.0	80.8	88	70	48	53	70	66	55.9	40.8	22.6	28.8	23.9	34.4	34.4	34.4	34.4
						2026	98.1	99.2	0.0	0.0	0.0	98.7	99	99	0	0	0	0	0	20	50.2	44.6	0.0	0.0	47.4	47.4	47.4	47.4
						2027	99.9	99.8	99.1	0.0	0.0	99.6	67	0	0	0	0	0	13	21.2	34.1	18.2	0.0	0.0	24.5	24.5	24.5	24.5
						2028	228.4	99.2	97.6	96.5	125.1	124.9	108.7	94	115	115	57	98	96	65.5	68.3	67.0	39.5	73.7	62.8	62.8	62.8	62.8
						2029	228.4	87.9	82.1	82.9	81.8	87.3	84.4	67	54	55	44	58	56	43.5	53.5	51.3	36.0	58.6	48.6	48.6	48.6	48.6
						2030	220.6	98.2	99.0	98.6	98.6	73.8	93.6	96	113	113	60	85	93	48.8	55.9	27.7	31.1	44.3	41.6	41.6	41.6	41.6
						2031	220.6	98.4	92.0	91.1	90.9	162.6	107.0	65	55	52	44	65	57	35.5	21.5	10.5	9.0	17.8	18.9	18.9	18.9	18.9
						2032	225.6	98.1	99.7	99.5	99.3	67.1	92.7	106	115	115	64	85	97	65.5	63.5	66.0	22.3	37.0	30.8	30.8	30.8	30.8
						2033	225.6	78.0	80.6	76.4	76.4	76.3	77.5	81	53	51	46	60	58	31.5	44.0	41.5	36.5	7.8	32.3	32.3	32.3	32.3
						2034	933.3	64.9	63.4	48.8	52.7	48.5	55.7	100	105	105	60	60	74	48.2	37.6	45.7	29.9	56.2	43.5	43.5	43.5	43.5
						2035	933.3	52.0	27.8	28.6	24.3	24.1	31.4	55	50	60	47	67	56	27.1	44.4	29.2	18.1	35.7	30.9	30.9	30.9	30.9
						2036	270.8	66.8	92.4	100.0	85.2	76.5	84.2	90	76	76	58	86	77	78.7	53.4	65.1	31.2	42.1	54.1	54.1	54.1	54.1
						2037	270.8	35.2	21.6	28.1	30.9	38.4	30.9	60	48	46	52	65	54	37.7	38.9	21.5	54.7	35.4	37.6	37.6	37.6	37.6
						2038	201.0	76.3	84.3	100.0	99.7	0.0	90.0	90	75	75	55	0	59	27.1	40.8	37.4	11.5	0.0	29.2	29.2	29.2	29.2
						2039	201.0	19.0	15.5	28.5	28.8	44.0	27.2	50	48	45	0	55	40	4.5	4.9	25.2	0.0	22.6	11.4	11.4	11.4	11.4
						2040	185.1	102.3	102.2	99.5	99.9	38.5	88.5	101	96	96	59	86	88	80.3	71.4	67.5	29.3	63.2	62.3	62.3	62.3	62.3
						2041	185.1	37.7	58.3	87.6	85.7	85.8	71.0	66	60	45	48	63	56	96.8	55.6	39.1	48.1	25.4	53.0	53.0	53.0	53.0
						2042	216.0	99.2	92.9	100.5	100.5	58.3	90.3	102	105	105	60	86	92	82.8	52.1	40.9	44.9	60.7	56.3	56.3	56.3	56.3
						2043	216.0	91.1	94.6	87.8	94.5	94.4	92.5	67	52	56	50	65	58	36.4	34.3	24.1	23.8	22.1	28.1	28.1	28.1	28.1
						2044	518.1	99.9	100.1	100.0	100.2	0.0	100.0	102	78	78	57	0	63	52.0	33.5	38.4	18.0	0.0	35.5	35.5	35.5	35.5
						2045	518.1	23.7	28.8	36.8	31.0	31.0	30.2	48	52	46	0	58	41	65.4	29.9	31.8	0.0	23.2	37.6	37.6	37.6	37.6
						2046	200.4	66.3	67.3	66.8	68.5	0.0	67.2	94	73	73	56	0	59	80.1	16.7	20.2	0.0	0.0	39.0	39.0	39.0	39.0
						2047	200.4	13.8	15.0	23.5	19.5	20.4	18.4	45	0	47	0	18	0	0	0	0	0	0	0	0	0	0
						2048	450.0	80.7	80.7	100.0	101.9	77.9	88.2	110	80	80	80	80	80	22.6	12.7	6.3	13.2	14.5	13.9	13.9	13.9	13.9
						2049	450.0	0.0	17.6	0.0	0.0	17.6	0.0	18	0	43	0	18	0	0	0	0	0	0	0	0	0	0
						2050	490.2	91.9	92.4	96.1	75.8	79.1	68.0	102	87	87	59	94	86	48.0	36.5	43.7	36.5	26.7	47.6	47.6	47.6	47.6
						2051	490.2	71.8	79.1	62.1	66.1	61.1	68.0	84	55	50	62	59	43	37.6	36.5	26.7	35.1	47.6	37.9	37.9	37.9	37.9
						2052	117.6	98.4	102.6	98.8	99.5	101.3	100.1	95	96	96	56	97	88	2.8	40.1	17.9	35.1	40.7	27.3	27.3	27.3	27.3
						2053	117.6	0.0	69.5	64.5	23.5	63.8	53.8	0	50	45	0	50	29	0.0	6.1	29.9	0.0	29.9	7.2	7.2	7.2	7.2
						2054	153.4	69.8	88.3	88.5	100.0	99.9	89.3	94	97	97	65	92	89	70.4	38.9	37.2	78.2	67.4	58.4	58.4	58.4	58.4

Table C1-272-2 Summary of IA O & M Performance (Region 12)

Region No.	NIS	IA	Crop Season	Service area (ha)		Crop Intensity (%)										Productivity (Yield) of Paddy (cav/ha)										Collection Efficiency of ISF, (Current Account Base)									
				2008	2009	2004	2005	2006	2007	2008	2009	2004	2005	2006	2007	2008	2009	2004	2005	2006	2007	2008	2009	2004	2005	2006	2007	2008	2009	Average					
1	56	MASANTU	Dry	153.4	68.9	36.9	68.9	62.7	59.9	67.2	59.1	92	60	50	48	73	65	73.1	33.8	56.6	43.7	72.3	56.3	73.1	33.8	56.6	43.7	72.3	56.3						
	57	MASANTU	Wet	413.1	92.1	92.1	98.0	112.8	100.5	100.5	100.8	98	98	98	64	79	87	71.2	65.0	41.4	56.4	62.6	59.3	65.0	41.4	56.4	62.6	59.3							
	58	BILUMAL (formerly BILUMA)	Dry	413.1	45.8	45.8	57.7	58.9	77.0	54.2	58.7	89	57	43	50	60	60	80.4	59.1	81.0	61.8	46.4	65.7	80.4	59.1	81.0	61.8	46.4	65.7						
	59	BILUMAL (formerly BILUMA)	Wet	196.2	98.3	98.3	97.1	102.0	103.0	99.9	100.1	96	89	89	69	91	87	56.5	52.7	43.1	37.8	52.4	48.5	56.5	52.7	43.1	37.8	52.4	48.5						
	60	MABIL	Dry	159.8	97.8	97.8	95.2	101.7	103.1	100.0	92.6	96	102	102	52	65	98	40.3	34.3	64.8	45.7	29.6	42.9	68.0	60.1	54.0	44.2	52.2	55.7						
	62	MABIL	Wet	159.8	79.5	79.5	78.9	82.6	81.9	102.0	85.0	70	54	57	57	59	59	44.8	30.7	81.7	55.6	22.2	47.0	44.8	30.7	81.7	55.6	22.2	47.0						
	63	KASALEGAN	Wet	469.7	79.3	79.3	79.2	79.2	79.2	79.2	79.2	90	81	81	81	85	81	52.4	36.0	32.2	35.5	39.4	39.1	52.4	36.0	32.2	35.5	39.4	39.1						
	64	KASALEGAN	Dry	469.7	68.7	68.7	69.0	65.7	65.8	70.7	68.0	69	58	67	54	65	63	36.6	42.2	36.0	38.4	31.5	36.9	36.6	42.2	36.0	38.4	31.5	36.9						
	65	SASAKA	Wet	158.9	92.6	92.6	101.1	99.8	99.8	99.5	98.6	93	85	85	85	85	82	66.3	51.9	66.9	38.0	53.0	55.2	66.3	51.9	66.9	38.0	53.0	55.2						
	66	SASAKA	Dry	158.9	92.2	92.2	97.7	80.8	99.5	99.5	94.0	70	50	71	50	65	61	52.8	37.2	36.3	43.2	39.1	41.7	52.8	37.2	36.3	43.2	39.1	41.7						
67	BANGGASAN	Wet	197.6	58.2	58.2	56.0	56.5	56.9	55.7	56.6	87	84	84	84	85	81	62.2	41.9	36.8	32.5	26.1	39.9	62.2	41.9	36.8	32.5	26.1	39.9							
68	BANGGASAN	Dry	197.6	29.6	29.6	32.0	40.0	33.2	33.2	33.6	67	50	68	48	65	60	35.9	44.1	39.0	30.6	36.1	37.1	35.9	44.1	39.0	30.6	36.1	37.1							
69	KONGAO	Wet	285.1	100.3	100.3	93.9	99.9	99.9	98.2	98.4	91	77	77	77	71	83	80	64.0	47.5	43.7	69.7	67.2	58.4	80	64.0	47.5	43.7	69.7	67.2	58.4					
70	KONGAO	Dry	285.1	100.0	100.0	100.1	96.2	99.6	100.0	99.2	80	67	55	65	70	67	52.7	39.9	42.5	52.7	51.7	47.9	52.7	39.9	42.5	52.7	51.7	47.9							
71	SITIO BAG-O	Wet	188.1	99.5	99.5	101.7	101.3	96.2	99.9	99.7	72	70	62	63	61	66	48.2	43.3	38.4	55.5	40.2	45.1	48.2	43.3	38.4	55.5	40.2	45.1							
72	SITIO BAG-O	Dry	188.1	99.5	99.5	101.7	101.3	96.2	99.9	99.7	72	70	62	63	61	66	48.2	43.3	38.4	55.5	40.2	45.1	48.2	43.3	38.4	55.5	40.2	45.1							
73	BAHE	Wet	143.6	98.0	98.0	97.5	98.7	100.1	100.8	99.0	90	77	77	70	80	80	58.2	33.9	34.8	41.2	58.7	45.4	58.2	33.9	34.8	41.2	58.7	45.4							
74	BAHE	Dry	143.6	98.0	98.0	96.4	97.5	97.5	100.1	97.9	68	69	52	56	80	65	33.0	46.1	22.7	39.7	33.9	35.1	33.0	46.1	22.7	39.7	33.9	35.1							
75	BUCATIL	Wet	551.6	84.9	84.9	73.0	91.7	91.2	91.6	86.5	88	80	80	71	85	81	61.0	55.3	52.2	66.8	93.7	65.8	61.0	55.3	52.2	66.8	93.7	65.8							
76	BUCATIL	Dry	551.6	84.3	84.3	81.4	66.5	79.2	83.0	78.9	71	72	55	58	64	51.2	54.6	58.8	55.2	57.5	55.4	55.4	51.2	54.6	58.8	55.2	57.5	55.4							
77	TUMIAO-MAMALI (+2007)	Wet	188.0				114.0	134.4	124.2	0	0	0	0	58	81	70	0.0	0.0	0.0	47.5	32.0	37.3	0.0	0.0	0.0	0.0	47.5	32.0	37.3						
78	TUMIAO-MAMALI (+2007)	Dry	188.0				114.0	109.1	109.1	0	0	0	0	0	65	65	0.0	0.0	0.0	0.0	45.7	45.7	0.0	0.0	0.0	0.0	45.7	45.7							
Subtotal			11,343.4	87.8	90.9	#VALUE!	94.0	86.3	91.2	96.3	90.2	90.6	63.8	86.1	79.2	61.1	49.7	45.9	42.6	53.8	49.9	49.9	61.1	49.7	45.9	42.6	53.8	49.9							
			11,343.4	71.5	70.6	69.7	65.2	73.0	68.1	71.8	58.8	52.5	51.1	53.4	47.3	40.1	36.5	43.2	37.3	40.1															
2	TACURONG IS																																		
	SMST IA																																		
	LANUPKAT (formerly DPEK IA)																																		
	TAGDUM IA																																		
	PAMPRESA IA																																		
	BULIGANAY IA																																		
	RAJA MUJDA																																		
	FAPP IA																																		
	PASSIDUM (+2008)																																		
	Subtotal																																		
3	BANGA RIS																																		
	Damsite (Banga RIS) IA (formerly PARAISO-HINGARAN IA)																																		
	Sunshine IA (formerly PUNONG GRANDE IA)																																		
	Highway-Katilingan IA (formerly LATERA B-1)																																		
	UPSTREAM																																		
	Country Folks IA (formerly MAHINANGPANON)																																		
	Subtotal																																		

Table C1-272-2 Summary of IA O & M Performance (Region 12)

Region No.	NIS	IA	Crop Season	Service area (ha)		Crop Intensity (%)										Productivity (Yield) of Paddy (cav/ha)										Collection Efficiency of ISF, (Current Account Base)									
				2008	2009	2004	2005	2006	2007	2008	2009	Average	2004	2005	2006	2007	2008	Average	2004	2005	2006	2007	2008	Average											
5	MARBEL 2 RIS	Handum, IA (formerly NAFIA)	1	Wet	82.6	85.9	94.0	100.0	100.0	94.5	95.9	94.1	87	95	74	102	83	88	100.0	100.0	100.0	100.0	100.0	100.0	100.0	84.8	87.4	87.4	84.8	85.4	85.0				
			2	Dry	82.6	89.3	87.1	97.8	98.3	94.0	93.3	71	94	93	86	84	93	86	84	92.5	100.0	100.0	100.0	100.0	100.0	100.0	77.4	81.3	81.3	78.9	79.5	76.0			
			3	Wet	157.0	96.4	99.6	98.8	98.4	102.2	99.1	101	97	84	101	84	101	84	84	86.6	89.1	75.0	100.0	100.0	100.0	100.0	74.1	86.9	82.9	74.1	89.4	80.3			
			4	Dry	157.0	98.5	96.3	97.9	100.0	98.8	98.3	83	93	82	91	82	86	91	82	86	83.7	85.2	87.2	84.2	86.9	86.9	86.9	72.7	81.5	79.5	79.5	79.4	78.0		
			5	Wet	93.5	99.1	99.3	100.0	99.9	101.5	100.0	98.3	93	98	79	103	86	92	81	91	91.9	92.3	80.4	90.3	84.1	87.8	87.8	82.8	79.8	80.9	60.5	100.0	78.8		
			6	Dry	93.5	99.1	99.3	100.0	100.0	100.4	79.9	81	91	91	91	91	91	91	91	86	87	82.6	83.6	72.3	81.8	80.1	80.1	82.8	79.8	80.9	60.5	100.0	78.8		
			7	Wet	95.4	98.8	99.2	99.3	99.7	98.8	99.1	103	95	83	103	89	85	94	85	86	81.7	74.8	100.0	74.1	100.0	94.1	91.9	82.8	79.8	80.9	60.5	100.0	78.8		
			8	Dry	182.9	97.1	97.5	98.9	97.1	97.2	97.5	97	81	80	102	96	91	87	78	87	87.7	82.5	87.7	100.0	100.0	100.0	100.0	77.4	81.3	81.3	78.9	79.5	76.0		
			9	Wet	182.9	96.2	97.6	99.3	98.7	98.0	98.0	74	76	71	89	81	80	87	78	87	87.7	82.5	87.7	100.0	100.0	100.0	100.0	77.4	81.3	81.3	78.9	79.5	76.0		
			10	Dry	41.7	95.6	94.3	97.9	99.1	101.5	97.7	99	95	86	104	89	95	86	104	89	100.0	100.0	100.0	100.0	100.0	100.0	100.0	77.4	81.3	81.3	78.9	79.5	76.0		
			11	Wet	41.7	99.4	95.4	95.7	98.9	100.9	98.0	73	81	78	84	84	84	84	84	84	85.2	100.0	100.0	100.0	100.0	100.0	100.0	77.4	81.3	81.3	78.9	79.5	76.0		
			12	Dry	85.2	98.6	98.9	99.9	99.7	99.5	99.3	84	96	94	103	91	94	92	93	92	92.3	92.3	100.0	100.0	100.0	100.0	100.0	77.4	81.3	81.3	78.9	79.5	76.0		
			13	Wet	85.2	98.6	98.9	99.9	99.7	99.5	99.3	84	96	94	103	91	94	92	93	92	92.3	92.3	100.0	100.0	100.0	100.0	100.0	77.4	81.3	81.3	78.9	79.5	76.0		
			14	Dry	107.9	98.1	98.5	99.3	99.8	99.2	99.0	99	94	100	97	102	98	92	98	92	95.1	100.0	100.0	100.0	100.0	100.0	100.0	77.4	81.3	81.3	78.9	79.5	76.0		
			15	Wet	107.9	97.8	97.5	98.6	99.3	99.4	98.5	83	83	83	88	92	82	88	92	82	88	77.7	78.7	84.6	74.2	91.3	81.3	82.8	79.8	80.9	60.5	100.0	78.8		
			16	Dry	197.7	95.8	94.2	101.5	101.7	100.3	98.7	95	95	81	96	89	91	84	84	84	84.4	84.4	82.9	83.2	90.1	85.6	85.6	77.4	81.3	81.3	78.9	79.5	76.0		
			17	Wet	197.7	96.7	95.0	100.0	100.8	100.6	98.6	84	91	98	90	68	86	86	86	86	57.4	84.5	87.9	75.5	86.2	77.9	77.9	72.7	81.5	79.5	79.4	78.0			
			18	Dry	176.9	95.2	95.1	100.2	101.2	102.0	98.3	83	92	91	95	82	89	78	78	78	78.7	86.9	76.3	81.7	81.0	80.9	80.9	72.7	81.5	79.5	79.4	78.0			
			19	Wet	176.9	95.2	95.1	100.2	101.2	102.0	98.3	83	92	91	95	82	89	78	78	78	78.7	86.9	76.3	81.7	81.0	80.9	80.9	72.7	81.5	79.5	79.4	78.0			
			20	Dry	176.9	95.2	95.1	100.2	101.2	102.0	98.3	83	92	91	95	82	89	78	78	78	78.7	86.9	76.3	81.7	81.0	80.9	80.9	72.7	81.5	79.5	79.4	78.0			
			21	Wet	85.0	99.4	99.4	99.7	100.3	99.4	99.6	84	76	87	94	79	84	79	84	79	91.5	100.0	100.0	100.0	100.0	100.0	100.0	77.4	81.3	81.3	78.9	79.5	76.0		
			22	Dry	85.0	100.0	99.4	99.1	100.3	100.0	99.8	84	79	91	90	59	81	100	81	100	100.0	85.2	100.0	100.0	100.0	100.0	100.0	77.4	81.3	81.3	78.9	79.5	76.0		
			23	Wet	228.7	99.4	99.0	99.6	98.9	97.7	98.9	76	85	71	87	72	72	78	78	78	75.0	74.6	78.8	76.8	76.8	76.8	76.8	72.7	81.5	79.5	79.4	78.0			
			24	Dry	228.7	99.4	99.0	99.6	98.9	97.7	98.9	76	85	71	87	72	72	78	78	78	75.0	74.6	78.8	76.8	76.8	76.8	76.8	72.7	81.5	79.5	79.4	78.0			
			25	Wet	105.7	90.4	88.8	99.9	99.7	97.2	95.2	66	91	72	90	71	78	85	80	84	98.3	100.0	100.0	100.0	100.0	100.0	100.0	77.4	81.3	81.3	78.9	79.5	76.0		
			26	Dry	105.7	92.4	89.1	97.9	99.0	94.6	94.6	75	85	80	84	63	77	85	80	84	91.5	100.0	100.0	100.0	100.0	100.0	100.0	77.4	81.3	81.3	78.9	79.5	76.0		
			Subtotal		1,640.3	96	97	100	99	99	98	90	92	83	98	85	90	91	92	87	95	92	87	85	85	85	85	85	85	85	85	85	85		
			6	SILUAY-BUAYAN RIS																															
			1	Wet	200.0	64.5	98.6	88.8	89.8	95.9	87.5	94	90	106	120	96	101	101	101	101	81.5	84.6	93.6	86.2	125.5	94.3	94.3	82.8	79.8	80.9	60.5	100.0	78.8		
			2	Dry	200.0	59.9	78.3	78.8	96.7	81.3	71	104	90	98	104	93	76.3	59.9	81.2	73.4	77.1	73.6	73.6	73.6	73.6	73.6	73.6	73.6	72.7	81.5	79.5	79.4	78.0		
			3	Wet	120.0	65.4	95.5	105.6	110.2	99.4	95.2	101	120	120	50	78	94	94	94	94	92.4	86.9	76.8	72.5	80.6	81.8	81.8	80.1	80.1	80.1	80.1	80.1	80.1		
			4	Dry	120.0	57.2	97.0	95.5	98.3	93.8	88.4	87	105	120	120	109	109	109	109	72.3	83.0	85.0	74.6	74.6	74.6	74.6	74.6	72.7	81.5	79.5	79.4	78.0			
			5	Wet	170.0	59.2	100.9	97.1	98.8	87.7	88.7	104	104	120	105	100	100	100	100	100	93.8	93.0	103.4	100.5	130.0	104.1	104.1	104.1	80.1	80.1	80.1	80.1	80.1		
			6	Dry	170.0	58.6	101.1	99.7	99.4	96.7	91.7	92	84	120	120	101	103	103	103	72.3	80.4	80.4	80.4	80.4	80.4	80.4	80.4	80.4	72.7	81.5	79.5	79.4	78.0		
7	Wet	120.0	78.9	95.1	89.6	83.8	98.8	89.2	98	120	122	82	63	97	82	63	97	82.1	76.3	93.8	75.6	110.8	87.7	87.7	87.7	72.7	81.5	79.5	79.4	78.0					
8	Dry	120.0	78.5	81.3	110.7	79.9	112.3	92.5	92	60	120	110	85	93	93	93	85	85	85	85	85	85	85	85	85	85	85	85	85	85					

Table C1-272-2 Summary of IA O & M Performance (Region 12)

Region No.	NIS	IA	Crop Season	Service area (ha)	Crop Intensity (%)								Productivity (Yield) of Paddy (cav./ha)								Collection Efficiency of ISF, (Current Account Base)							
					2004	2005	2006	2007	2008	Average	2004	2005	2006	2007	2008	Average	2004	2005	2006	2007	2008	Average						
9		General Santos FIA	Wet	180.0	77.7	104.3	110.7	119.9	94.5	101.4	87	90	105	90	96	94	82.1	79.1	96.7	82.4	110.2	90.1						
10			Dry	180.0	59.9	115.8	98.4	111.0	99.5	96.9	89	61	90	110	80	86	59.2	42.8	92.4	72.7	80.1	69.4						
11		Lagao-Bula IA (formerly Golden Grain FIA)	Wet	90.0	80.8	101.8	78.0	83.9	95.4	88.0	96	103	80	33	69	76	80.1	41.9	59.7	46.9	83.2	62.3						
12			Dry	90.0	82.6	94.3	79.7	74.5	105.3	87.3	95	60	103	101	70	86	45.2	24.2	34.9	24.5	53.0	36.4						
13		Green Field FIA (formerly Gintong Ani FIA)	Wet	160.0	94.5	98.4	106.9	104.6	95.6	100.0	97	110	110	92	91	100	78.1	73.1	92.2	72.9	76.6	78.6						
14			Dry	160.0	96.0	98.8	99.8	101.7	98.2	98.9	89	150	110	103	83	107	82.5	53.1	52.7	48.4	49.5	57.2						
15		Baluau-Lagao FIA	Wet	80.0	89.3	90.6	100.4	136.7	99.8	103.4	89	110	120	83	100	100	79.2	92.1	108.9	100.4	118.2	99.7						
16			Dry	80.0	83.4	89.6	143.9	100.5	97.8	103.0	76	130	110	120	83	104	48.0	61.4	74.8	115.3	82.8	76.4						
17		Baluau-Buayan FIA	Wet	115.0	64.8	82.9	81.5	136.7	99.0	93.0	88	110	120	94	77	98	81.2	81.8	119.7	67.0	78.4	85.6						
18			Dry	115.0	0.0	73.7	86.5	82.0	88.7	82.7	0	93	110	90	72	91	0.0	61.0	38.0	61.8	75.8	47.3						
19		Buayan RIS FIA	Wet	220.0	54.9	69.4	75.0	78.5	93.2	74.2	78	80	80	75	100	83	82.0	76.0	121.7	73.0	111.8	92.9						
20			Dry	220.0	0.0	55.6	42.2	68.3	94.8	65.2	0	56	80	62	82	70	0.0	44.9	29.5	73.6	58.2	41.2						
		Subtotal	Wet	1,455.0	73	94	93	104	96	92	93	105	108	82	87	95	83	78	97	78	103	88						
			Dry	1,455.0	72	90	93	89	99	89	86	90	105	103	87	94	67	57	55	69	71	61						

Table C1-273 Summary of IA Functionality for the Irrigation Service (Region 12)

Region No.	NIS	IA	Average Ratings on Evaluated Functionality of IA							Breakdown of Average Ratings in 2008						
			2004	2005	2006	2007	2008	2008	2008	Evaluation in 2008	O & M	Organization	Financial	Organizational	Total	Additional indicators
	7		79.2	71.5	79.1	86.2	80.0	S	32.3	13.2	23.8	10.7	80.0	0.0		
	8															
	9		82.8	67.2	72.5	89.7	91.6	VS	36.3	14.6	26.5	12.1	89.6	2.0		
	10															
	11		83.8	75.1	71.3	81.5	81.5	S	34.6	12.1	23.0	10.7	80.5	1.0		
	12															
	13		90.0	86.9	87.0	96.5	89.4	VS	32.8	13.9	28.3	12.4	87.4	2.0		
	14															
	15		78.0	65.9	65.1	82.7	72.4	F	31.2	10.7	19.1	10.4	71.4	1.0		
	16															
	17		79.7	65.9	77.6	76.5	63.1	P	27.8	10.0	16.1	8.2	62.1	1.0		
	18															
	19		94.5	85.4	87.0	94.8	88.5	VS	36.6	12.5	26.0	11.4	86.5	2.0		
	20															
	21		90.4	75.7	89.3	72.8	83.5	S	32.0	11.1	23.2	10.0	76.3	7.8		
	22															
	23		90.6	76.8	79.8	73.6	88.5	VS	33.5	11.8	25.7	10.0	81.0	7.5		
	24															
	25		76.5	76.5	86.8	80.1	80.6	S	31.7	11.1	20.5	10.0	73.3	7.3		
	26															
	27		78.7	82.3	85.0	77.9	88.6	VS	36.3	12.5	21.1	11.4	81.4	7.3		
	28															
	29		81.4	76.6	85.1	77.0	81.7	S	31.0	11.8	20.6	10.0	73.4	8.3		
	30															
	31		80.0	80.6	97.3	98.4	0.0	-	New IA							
	32															
	33		84.8	87.0	92.8	99.2	88.6	VS	35.7	12.5	26.5	11.4	86.1	2.5		
	34															
	35		79.2	85.3	96.0	96.5	88.9	VS	36.7	12.5	25.2	10.7	85.1	3.8		
	36															
	37		74.9	70.4	92.7	89.7	87.0	VS	35.9	12.5	24.8	12.9	86.0	1.0		
	38															
	39		80.0	80.6	97.3	98.4	92.6	VS	36.0	12.7	26.5	10.7	85.9	6.8		
	40															
	41		90.0	83.8	99.0	94.3	91.7	VS	35.9	12.5	27.5	13.6	89.5	2.3		
	42															
	43		72.2	78.7	88.5	100.1	81.7	S	35.0	12.5	20.3	11.4	79.2	2.5		
	44															
	45		87.5	96.7	96.0	102.1	95.5	O	37.4	12.5	27.0	12.8	89.7	5.8		
	46															
	Subtotal		82.3	78.4	85.5	88.4	84.3	S	33.9	12.5	23.5	11.0	81.0	3.4		
					83.8				85%	83%	78%	73%	81%	28%		
4	MARBEL RIS															
	1		104.8	80.6	100.8	96.3	96.1	O	36.6	13.0	25.0	12.9	87.6	8.5		
	2															
	3		95.1	94.6	104.3	96.3	93.2	O	36.1	13.6	23.2	12.1	85.0	8.3		
	4															
	5		92.2	79.0	92.6	90.3	83.1	S	34.3	12.1	17.7	10.7	74.9	8.3		
	6															
	7		110.0	106.4	108.9	111.0	111.0	O	40.0	15.0	30.0	15.0	100.0	11.0		
	8															
	9		91.3	76.6	87.6	84.1	86.1	VS	35.8	11.4	20.2	11.4	78.8	7.3		
	10															

Table C1-273 Summary of IA Functionality for the Irrigation Service (Region 12)

Region No.	NIS	IA	Average Ratings on Evaluated Functionality of IA										Breakdown of Average Ratings in 2008					
			2004	2005	2006	2007	2008	2008	2008	2008	2008	2008	O & M	Organization	Financial	Organizational	Total	Additional indicators
	Subtotal		78.2	83.0	96.6	85.4	82.5	S	34.7	12.8	20.6	9.8	77.8	6.9				
				85.2					87%	85%	69%	65%	78%	57%				
6	SILUAY-BUAYAN RIS																	
	1	Katangawan-Sagana FIA	87.0	95.2	91.5	83.3	76.7	S	35.9	13.2	10.6	9.3	69.0	7.8				
	2																	
	3	Nursery FIA	90.3	100.6	89.2	85.2	83.3	S	34.0	14.6	16.3	9.3	74.3	9.0				
	4																	
	5	Napal-Conel Road FIA	88.5	102.6	102.5	96.9	109.8	O	40.0	15.0	30.0	15.0	100.0	9.8				
	6																	
	7	Matatag FIA	76.4	85.8	84.8	76.8	73.8	S	34.5	13.2	10.3	9.3	67.3	6.5				
	8																	
	9	General Santos FIA	83.1	88.8	92.9	85.6	80.5	S	37.4	12.9	14.7	7.9	72.8	7.8				
	10																	
	11	Lagao-Bula IA (formerly Golden Grain FIA)	64.9	71.5	0.0	0.0	55.2	P	29.2	8.6	8.7	3.2	49.7	5.5				
	12																	
	13	Green Field FIA (formerly Gintong Ani FIA)	82.9	87.0	87.3	81.9	72.6	F	38.4	12.9	14.8	6.1	72.1	5.5				
	14																	
	15	Baluan-Lagao FIA	78.7	93.7	92.5	87.8	81.5	S	34.1	14.6	15.7	10.0	74.5	7.0				
	16																	
	17	Baluan-Buayan FIA	72.5	83.9	94.0	85.7	77.4	S	36.5	13.9	11.4	8.6	70.4	7.0				
	18																	
	19	Buayan RIS FIA	80.1	87.1	89.9	85.7	69.2	F	31.6	13.6	10.2	6.8	62.2	7.0				
	20																	
	Subtotal		80.4	89.6	82.5	76.9	78.0	S	35.2	13.2	14.3	8.5	71.2	7.3				
				81.5					88%	88%	48%	57%	71%	61%				

Annex C-1 (Part-2)

IA Profile, O&M Performance and Functionality in Region 13

Table C1-281-1 Summary of IA Profile (Region 13)

Region No.	NIS	IA	Location (mailing Address)	Service area (ha)	TSAG (unit)					Ave. ha	Reactivation of TSAG Date	SEC. Registration Date	Farmers / Benef. in Service	IA member (2)					Membership (%)										
					2004	2005	2006	2007	2008					2004	2005	2006	2007	2008	2004	2005	2006	2007	2008						
13	Cabadbaran - Taguibo	Sanghan IA	Sanghan Cabadbaran	250.8	12	12	12	12	12	12	21	1/2004	1983/9/16	223	181	188	190	190	190	190	81	81	84	85	85	85			
		Bayasa IA	Bayang, Cabadbaran	196.6	7	7	7	7	7	7	28	1/2004	1986/1/5	135	120	120	125	125	125	125	125	89	89	89	92	92	92		
		Albaca IA	Humlug, RTR	217.7	6	6	6	6	6	6	36	1/2004	1988/3/4	140	105	108	108	108	108	108	108	75	75	77	77	77	77		
		Cataluba IA	Calamba, Cabadbaran	160.0	6	6	6	6	6	27	1/2004	1988/6/7	160	138	138	150	150	150	150	150	150	86	86	86	94	94	94		
		Tagbapahu IA	Tagbongabong, RTR	174.4	5	5	5	5	5	35	1/2004	1988/7/17	136	115	120	120	120	120	120	120	120	84	88	88	88	88	88		
		Dagami IA	Pob. RTR	274.7	7	7	7	7	7	39	1/2004	1988/7/25	195	165	165	170	170	170	170	170	170	85	85	87	87	87	87		
		Abad IA	Agey, RTR	136.5	7	7	7	7	7	19	1/2004	1988/8/16	140	121	121	140	140	140	140	140	140	86	86	86	100	100	100		
		Miracle IA	Sio. Niño, Butuan City	176.4	6	6	6	6	6	29	1/2004	1988/9/9	90	85	88	88	88	88	88	88	88	94	98	98	98	98	98		
		Stockfile IA	Sio. Niño, Butuan City	291.1	12	12	12	12	12	24	1/2004	1988/8/28	290	260	260	269	269	269	269	269	269	89	89	93	93	93	93		
		Sunrise IA	Sio. Niño, Butuan City	153.6	7	7	7	7	7	22	1/2004	1988/8/20	65	52	52	60	60	60	60	60	60	80	80	80	92	92	92		
		Ladidu IA	Los Angeles, B.C	218.9	9	9	9	9	9	24	12/2005	1988/9/15	135	122	122	130	130	130	130	130	130	90	90	96	96	96	96		
		Masulbad IA	Los Angeles, B.C	761.9	20	20	20	20	20	38	12/2005	1987/1/10	416	365	368	400	400	400	400	400	400	88	88	96	96	96	96		
		BHP IA	Basilisa, RTR	200.0	1	1	1	1	1	200	1/2004	2000/12/29	75	50	50	50	50	50	50	50	50	67	67	67	67	67	67		
			Subtotal			3,212.5	105	105	105	105	105	31			2,200	1,879	1,900	2,000	2,000	2,000	2,000							91	
		2	Simulao RIS	Manat-Tag	Manat Trento, ADS	75.0	12	12	12	12	12	6	7/6/1994	9/8/1995	60	57	59	60	60	60	60	60	95	98	100	100	100	100	
				Egmat IA	Kapatungan, Trento ADS	236.0	13	13	13	13	13	18	5/6/1983	3/5/1984	194	194	194	194	194	194	194	194	100	100	100	100	100	100	100
				Maruon IA	Tudela, Trento ADS	50.0	2	2	2	2	2	25	8/3/1994	10/3/1995	75	75	75	75	75	75	75	75	100	100	100	100	100	100	100
Mahayabay IA	Libertad, Trento ADS			135.0	6	7	8	8	8	17	7/3/1983	9/10/1984	145	136	140	145	145	145	145	145	145	94	97	100	100	100	100	100	
Imelda IA	Imelda, Trento ADS			30.0	1	1	1	1	1	30	9/2/1998	5/12/2006	47	43	45	47	47	47	47	47	47	91	96	100	100	100	100	100	
Matrebak IA	Pob. Trento ADS			170.0	7	7	7	7	7	24	5/4/1983	5/6/1984	124	120	122	124	124	124	124	124	98	98	100	100	100	100	100		
Kapatungan IA	Kapatungan, Trento ADS			330.0	12	14	15	16	16	21	4/6/1983	7/10/1984	287	275	248	282	287	287	287	287	287	96	96	98	98	100	100	100	
Katagkaganan IA	Pob. Trento ADS			210.0	7	7	7	7	7	30	10/6/2000	10/10/2001	141	130	134	137	141	141	141	141	141	92	95	97	97	100	100	100	
Cahian IA	Cahian, Kap. TADS			237.0	6	7	7	7	7	34	10/16/2000	10/10/2001	125	118	120	123	125	125	125	125	125	94	96	98	98	100	100	100	
Balika IA	Barobo, Lib. ADS			250.0	8	9	9	9	9	28	5/10/1983	8/10/1984	116	110	112	115	116	116	116	116	116	95	97	99	99	100	100	100	
Livista IA	Libertad, Bunawan, ADS			200.0	9	10	12	12	12	17	10/18/2000	10/10/2001	119	112	115	119	119	119	119	119	119	94	97	100	100	100	100	100	
Libahu IA	Libertad, Bunawan, ADS			130.0	5	6	7	7	7	19	9/12/1983	7/23/1985	77	68	70	74	77	77	77	77	77	88	91	96	96	100	100	100	
Hubang IA	Hubang, Bunawan, ADS			100.0	4	4	5	5	5	20	4/10/1997	9/10/1998	60	46	50	56	60	60	60	60	60	77	83	93	93	100	100	100	
Antioquia IA	Antioquia, Kap. TADS			48.0	2	2	2	2	2	24	8/26/1998	10/27/2005	51	35	40	49	51	51	51	51	51	69	78	96	100	100	100	100	
Catambao IA	Libertad, Bunawan, ADS			20.0	1						#DIV/0!		10									100							
Humayan IA	Libertad, Bunawan, ADS			229.0	10	10	11	11	11	11	21	10/19/2000	10/10/2001	133	122	125	130	133	133	133	133	92	94	98	98	100	100	100	
EQB IA	Maiica, Trento, ADS			90.0	9	9	9	9	9	10	5/6/1983	3/5/1984	89	80	82	84	89	89	89	89	89	90	92	94	94	100	100	100	
	Subtotal			2,540.0	114.0	120.0	127.0	128.0	128.0	20			1,843	1,731	1,731	1,814	1,843	1,843	1,843							100			

Table C1-281.2- Summary of IA Profile (Region 13)

Region No.	NIS	IA	Location (mailing Address)	Service area (ha)		TSAG (unit)					Reactivation of TSAG	SEC Registration Date	Farmers / Benef. in Service 2008	Tenurial Status of Member in Dec. 2008				Ratio of Tenant - Lessee and Amortizing Owner in Dec. 2008 (%)			IMT Contract in Dec. 2008		Canal Length (km) in Dec. 2008			
				2008	2009	2004	2005	2006	2007	2008				Ave. ha	FOPO	ST	L	AO	Total	ST	L	AO	Type	Latest validity date	Total	Contracted
13	Cabadbaran - Taguibo	Sanghan IA	Sanghan Cabadbaran	250.8	12	12	12	12	12	12	21	1/2004	1983/16	223	104	6	80	0	190	3	42	55	JSM	1/2007	4.1	4.1
		Baysa IA	Bay-sing, Cabadbaran	196.6	7	7	7	7	7	7	28	1/2004	1987/15	133	64	2	54	5	125	2	43	55	Type I&II	1/2008	4.3	4.3
		Altaoa IA	Humluga, RTR	217.7	6	6	6	6	6	6	36	1/2004	1989/34	140	85	0	23	0	108	0	21	79	Type I&II	1/2008	4.6	4.6
		Cataluba IA	Calamba, Cabadbaran	180.0	6	6	6	6	6	6	27	1/2004	1988/67	160	99	5	46	0	150	3	31	66	Type I&II	1/2008	2.0	2.0
		Tagapapahu IA	Tagapapapahong, RTR	174.4	5	5	5	5	5	5	35	1/2004	1987/17	136	37	5	69	9	120	4	58	38	Type I&II	1/2008	4.1	4.1
		Dagami IA	Pob. RTR	274.7	7	7	7	7	7	7	39	1/2004	1987/25	195	78	0	83	0	170	0	49	46	Type I&II	1/2008	4.1	4.1
		Abad IA	Agay, RTR	136.5	7	7	7	7	7	7	19	1/2004	1988/16	140	51	4	85	9	140	3	61	43	Type I&II	1/2008	2.1	2.1
		Miracle IA	Sio. Niño, Butuan City	176.4	6	6	6	6	6	6	29	1/2004	1988/26	90	21	0	64	3	88	0	73	27	Type I&II	1/2008	3.0	3.0
		Stockpile IA	Sio. Niño, Butuan City	291.1	12	12	12	12	12	12	24	1/2004	1988/26	290	66	10	178	15	269	4	66	30	Type I&II	1/2008	4.4	4.4
		Sunrise IA	Sio. Niño, Butuan City	163.6	7	7	7	7	7	7	22	1/2004	1989/20	65	11	0	49	0	60	0	82	16	Type I&II	1/2008	2.7	2.7
		Lealida IA	Los Angeles, B.C	218.9	9	9	9	9	9	9	24	12/2005	1988/15	135	20	0	110	0	130	0	85	15	Type I&II	1/2008	3.9	3.9
		Masulbad IA	Los Angeles, B.C	781.9	20	20	20	20	20	20	38	12/2005	1981/10	416	130	10	260	0	400	3	65	33	Type I&II	1/2008	10.2	10.2
		BHP IA	Basilisa, RTR	200.0	1	1	1	1	1	1	1	200	1/2004	2000/12/29	75	20	0	30	0	50	0	60	40	None	-	2.5
	Subtotal	3,212.5	105	105	105	105	105	105	31				2,200	786	42	1,131	41	2,000	2	57	41			51.9	48.4	
2	Simulao RIS	Maaat-Tag	Maaat Trento, ADS	75.0	12	12	12	12	12	6	7/6/1994	9/8/1995	60	10	6	42	2	60	10	70	20	Type I&II		6.1	6.1	
		Egmat IA	Kapatungan, Trento ADS	236.0	13	13	13	13	13	13	18	5/6/1983	3/5/1984	194	54	7	128	5	194	4	66	30	JSM		3.8	3.8
		Matuon IA	Judela, Trento ADS	50.0	2	2	2	2	2	2	25	8/3/1994	10/3/1995	75	42	5	28	0	75	7	37	56	Type I&II		3.2	3.2
		Malayabay IA	Libertad, Trento ADS	135.0	6	6	6	6	6	6	8	7/3/1983	9/10/1984	145	10	20	110	5	145	14	76	10	Type I&II		3.6	3.6
		Imelda IA	Imelda, Trento ADS	30.0	1	1	1	1	1	1	30	9/2/1998	5/12/2006	47	17	2	25	3	47	4	53	43	-		1.0	0.0
		Mairebak IA	Pob. Trento ADS	170.0	7	7	7	7	7	7	24	5/4/1983	5/6/1984	124	40	5	78	1	124	4	63	33	JSM		2.4	2.4
		Kapatungan IA	Kapatungan, Trento ADS	330.0	12	14	15	16	16	16	21	4/6/1983	7/10/1984	287	71	10	203	3	287	3	71	26	JSM		3.4	3.4
		Kaagaanan IA	Pob. Trento ADS	210.0	7	7	7	7	7	7	30	10/6/2009	10/10/2001	141	30	18	92	1	141	13	65	22	Type I&II		2.2	2.2
		Caban IA	Caban, Kap. TADS	237.0	6	7	7	7	7	7	34	10/16/2000	10/10/2001	125	46	15	62	2	125	12	50	38	JSM		1.8	1.8
		Baika IA	Barobo, Lib. ADS	250.0	8	9	9	9	9	9	28	5/10/1983	8/10/1984	116	37	10	63	6	116	9	54	37	JSM		2.6	2.6
		Livista IA	Libertad, Bunawan, ADS	200.0	9	10	12	12	12	12	17	10/18/2000	10/10/2001	119	48	15	50	1	114	13	44	43	Type I&II		3.7	3.7
		Lihahu IA	Libertad, Bunawan, ADS	130.0	5	6	7	7	7	7	19	9/12/1983	7/23/1985	77	31	9	36	1	77	12	47	42	Type I&II		2.0	2.0
		Hubang IA	Hubang, Bunawan, ADS	100.0	4	4	5	5	5	5	20	4/10/1997	9/10/1998	60	32	8	18	2	60	13	30	57	Type I&II		3.0	3.0
Antoquia IA	Antoquia, Kap. TADS	48.0	2	2	2	2	2	2	24	8/26/1998	10/27/2005	51	22	5	24	0	51	10	47	43	Type I&II		0.3	0.3		
Humayan IA	Libertad, Bunawan, ADS	20.0	1							#DIV/0!													1.0	0.0		
EJOB IA	Mauca, Trento, ADS	90.0	9	9	9	9	9	9	10	10/19/2000	10/10/2001	133	55	23	51	4	133	17	38	44	Type I&II		3.9	3.9		
	Subtotal	2,540.0	114.0	120.0	127.0	128.0	128.0	128.0	20				1,843	579	162	1,059	38	1,838	9	58	34			47.9	45.9	

Table C1-282-1 Summary of IA O & M Performance (Region 13)

Region No.	NIS	IA	Crop Season	Service area (ha)	Program area (ha)								Irrigated and planted area (ha)							
					2008	2004	2005	2006	2007	2008	Ratio	2004	2005	2006	2007	2008	Ratio			
13	Cabadbaran - Tagui	Sanghan IA	Wet	250	249	249	249	234	234	234	234	94%	249	220	220	234	234	94%		
			Dry	250	249	249	234	234	234	234	234	94%	220	197	197	234	234	94%		
			Wet	168	161	168	168	167	167	167	167	167	100%	161	168	167	167	167	100%	
			Dry	168	161	168	168	168	168	168	168	168	100%	168	169	167	167	167	100%	
			Wet	218	151	150	150	121	141	141	121	121	65%	150	121	121	121	141	65%	
			Dry	218	151	150	150	121	141	141	121	121	56%	121	123	121	121	141	56%	
			Wet	160	160	154	154	145	145	145	145	145	91%	154	145	135	145	145	91%	
			Dry	160	160	154	154	145	145	145	145	145	91%	145	144	144	145	145	91%	
			Wet	184	151	128	128	114	114	114	114	114	62%	147	112	112	114	114	62%	
			Dry	184	151	128	128	114	114	114	114	114	62%	112	114	114	114	114	62%	
			Wet	226	226	226	226	224	225	225	224	224	100%	26	226	221	224	224	99%	
			Dry	226	226	226	226	224	225	225	224	224	99%	226	226	226	224	224	99%	
			Wet	126	117	126	126	115	115	115	115	115	91%	117	126	117	115	113	89%	
Dry	126	117	126	126	115	115	115	115	115	91%	117	109	117	115	115	91%				
Wet	176	130	133	133	120	120	120	120	120	68%	133	133	121	120	121	68%				
Dry	176	130	133	133	120	120	120	120	120	68%	133	132	120	120	120	68%				
Wet	370	310	281	281	225	225	225	225	225	61%	303	216	246	225	217	59%				
Dry	370	310	281	281	225	225	225	225	225	61%	255	216	246	225	217	59%				
Wet	154	118	129	129	116	116	116	116	116	76%	119	129	121	116	117	76%				
Dry	154	118	129	129	116	116	116	116	116	76%	118	123	123	116	117	76%				
Wet	219	149	163	163	162	162	162	162	162	74%	156	159	139	162	173	79%				
Dry	219	149	163	163	162	162	162	162	162	74%	154	161	161	162	173	79%				
Wet	762	467	467	467	419	419	419	419	419	55%	467	417	364	419	418	55%				
Dry	762	467	467	467	419	419	419	419	419	55%	441	373	364	419	418	55%				
Wet	200	111	128	128	125	104	104	125	125	52%	123	129	118	125	105	52%				
Dry	200	111	128	128	125	104	104	125	125	52%	129	126	118	125	105	52%				
Wet	3,213	2,500	2,500	2,500	2,287	2,287	2,287	2,287	2,287	71%	2,304	2,300	2,200	2,287	2,287	71%				
Dry	3,213	2,500	2,500	2,500	2,287	2,287	2,287	2,287	2,287	71%	2,337	2,212	0	2,287	0	71%				
2	Simulao	Taglahus - Manat IA	Wet	75	67	65	67	67	67	67	89%	45	58	59	75	58	77%			
			Dry	75	67	67	67	67	67	67	89%	55	62	72	75	75	100%			
		Egmat IA	Wet	233	310	220	210	220	220	233	100%	310	225	228	233	234	100%			
			Dry	236	210	200	220	220	220	233	99%	225	224	228	234	236	100%			
		Matunon IA	Wet	50	48	50	48	48	48	48	96%	48	47	48	50	50	100%			
			Dry	50	48	48	48	48	48	48	96%	48	48	45	50	50	100%			
		Mahayahay IA	Wet	135	125	125	125	125	135	135	100%	125	114	130	138	127	94%			
			Dry	135	125	125	125	125	135	135	100%	119	126	121	134	135	100%			
		Imelda IA	Wet	30	27	23	26	26	26	26	87%	27	12	18	24	69	230%			
			Dry	30	27	25	26	26	26	26	87%	34	0	16	25	21	70%			

Table C1-282-1 Summary of IA O & M Performance (Region 13)

Region No.	NIS	IA	Crop Season	Service area (ha)		Program area (ha)										Irrigated and planted area (ha)									
				2008	2008	2004	2005	2006	2007	2008	Ratio	2004	2005	2006	2007	2008	Ratio	2004	2005	2006	2007	2008	Ratio		
		Matrebak IA	Wet	170	175	175	175	175	175	170	170	170	100%	175	165	168	162	162	162	162	162	93%			
		Kapatungan IA	Wet	330	325	325	325	325	325	325	325	325	98%	321	313	311	312	312	312	312	312	93%			
		Katagkangan IA	Dry	330	325	325	310	325	325	325	325	98%	324	310	307	317	317	317	317	317	317	96%			
			Wet	210	194	198	198	198	203	203	210	100%	194	197	203	210	210	210	210	210	210	100%			
		Cahian IA	Dry	210	194	194	194	203	203	203	210	100%	196	218	204	208	205	205	205	205	205	98%			
			Wet	237	235	235	235	235	235	235	235	99%	238	232	235	236	239	239	239	239	239	101%			
			Dry	237	235	235	235	235	235	235	235	99%	231	235	236	237	237	237	237	237	237	100%			
		Balika IA	Wet	250	180	190	200	200	200	200	200	80%	170	183	198	186	205	205	205	205	205	82%			
			Dry	250	180	200	200	200	200	200	200	80%	175	194	195	192	200	200	200	200	200	80%			
		Livista IA	Wet	210	160	160	160	180	180	180	180	86%	140	148	182	188	184	184	184	184	184	88%			
			Dry	200	160	160	130	180	180	180	180	90%	161	111	181	188	186	186	186	186	186	93%			
		Libahu IA	Wet	125	90	100	110	110	110	110	110	88%	98	90	122	127	130	130	130	130	130	104%			
			Dry	130	90	90	110	110	110	110	110	85%	110	112	124	127	130	130	130	130	130	100%			
		Hubang IA	Wet	100	65	70	65	65	65	65	65	65%	60	68	78	72	66	66	66	66	66	66%			
			Dry	100	65	65	65	65	65	65	65	65%	44	64	70	72	68	68	68	68	68	68%			
		Antioquia IA	Wet	48	36	34	34	36	36	36	36	75%	36	32	33	35	35	35	35	35	35	73%			
			Dry	48	36	36	36	36	36	36	36	75%	34	33	36	35	35	35	35	35	35	73%			
		Catambao IA	Wet	20	0	0	0	0	0	0	0	0%	7	0	0	0	0	0	0	0	0	0%			
			Dry	20	0	0	0	0	0	0	0	0%	3	0	0	0	0	0	0	0	0	0%			
		Humayan IA	Wet	225	180	180	180	200	200	200	200	89%	195	176	218	221	223	223	223	223	223	99%			
			Dry	229	180	180	200	200	200	200	200	87%	202	190	221	221	229	229	229	229	229	100%			
		EQB IA	Wet	92	0	100	100	100	90	90	90	98%	0	88	83	84	87	87	87	87	87	95%			
			Dry	90	100	100	100	90	90	90	90	100%	95	90	82	84	87	87	87	87	87	97%			
		Subtotal	Wet	2,540	2,217	2,250	2,300	2,300	2,300	2,300	2,330	92%	2,189	2,149	2,314	2,353	2,385	2,385	2,385	2,385	2,385	94%			
			Dry	2,540	2,217	2,200	2,300	2,300	2,300	2,300	2,330	91%	2,211	2,190	2,300	2,360	2,381	2,381	2,381	2,381	2,381	2,381	93%		

Table C1-283 Summary of IA Functionality for the Irrigation Service (Region 13)

Region No.	NIS	IA	Average Ratings on Evaluated Functionality of IA						Breakdown of Average Ratings in 2008					Additional	
			Evaluation in 2008						O & M	Organization	Financial	Organizational Discipline	Total		
			2004	2005	2006	2007	2008	2008							
13	1	Cabadbaran - Taguibo							40	15	30	15	100	12	
		Sanghan IA	79.6	81.6	81.1	81.1	80.7	S	30.9	13.9	22.1	10.7	80.7	3.0	
		Baysa IA	85.4	87.7	84.2	85.8	84.7	S	31.4	14.6	23.8	11.4	84.7	3.5	
		Albaca IA	78.4	86.1	87.6	87.6	86.1	VS	32.4	14.6	24.6	10.7	86.1	3.8	
		Cataluba IA	81.6	86.2	80.7	81.1	79.3	S	30.2	13.9	22.1	10.0	79.3	3.0	
		Tagbapahu IA	78.9	85.1	83.1	83.1	82.6	S	31.3	13.9	23.0	10.7	82.6	3.8	
		Dagami IA	77.6	78.4	79.3	79.3	79.3	S	30.2	13.9	22.1	10.0	79.3	3.0	
		Abad IA	82.2	85.4	84.3	84.3	82.7	S	31.4	13.9	23.0	11.4	82.7	3.0	
		Miracle IA	79.9	80.0	80.0	80.0	79.3	S	30.2	13.9	22.1	10.0	79.3	3.0	
		Stockfile IA	81.2	82.8	84.0	84.0	85.1	S	31.3	13.9	23.0	12.1	85.1	4.8	
		Sunrise IA	84.5	88.6	86.8	86.8	86.6	VS	31.4	14.6	24.6	11.4	86.6	4.5	
		Ladidu IA	85.7	89.5	88.7	89.6	88.3	VS	32.4	14.6	24.6	12.1	88.3	4.8	
		Masulbad IA	81.4	85.9	85.8	85.8	84.5	S	31.4	14.6	23.8	10.7	84.5	4.0	
		BHP IA	74.1	72.2	72.8	72.8	72.8	F	25.2	12.5	22.1	10.0	72.8	3.0	
		Subtotal	80.8	83.8	82.9	83.2	82.4	S	30.7	14.1	23.2	10.9	82.4	3.6	
			82.6							77%	94%	77%	73%	82%	30%
	2	Simulao													
		Taglahus - Manat IA	89.5	87.9	90.9	92.0	101.7	O	37.7	14.6	28.3	15.0	98.7	3.0	
		Egmat IA	89.6	85.9	87.5	97.8	105.6	O	37.4	15.0	29.7	15.0	101.3	4.3	
		Matuon IA	92.4	87.9	89.2	96.1	97.9	O	37.1	14.6	29.2	15.0	95.9	2.0	
		Mahayahay IA	85.6	82.0	85.7	85.8	91.6	O	37.1	13.9	24.0	13.6	88.6	3.0	

Table CI-283 Summary of IA Functionality for the Irrigation Service (Region 13)

Region No.	NIS	IA	Average Ratings on Evaluated Functionality of IA						Evaluation in 2008	Breakdown of Average Ratings in 2008					Additional
			2004	2005	2006	2007	2008	O & M		Organization	Financial	Organizational Discipline	Total		
		Imelda IA	94.9	69.1	80.2	82.3	83.8	S	40	15	30	15	100	12	
		Matrebak IA	91.5	91.7	98.9	105.3	107.2	O	40.7	15.0	30.0	15.0	100.7	6.5	
		Kapatungan IA	94.7	92.7	90.0	98.8	100.6	O	39.3	14.6	28.3	14.3	96.6	4.0	
		Katagkanan IA	92.6	85.4	86.5	89.3	90.9	O	34.1	12.9	26.0	15.0	87.9	3.0	
		Cahian IA	90.5	85.6	91.2	93.9	95.8	O	38.7	13.9	25.7	15.0	93.3	2.5	
		Balika IA	88.4	85.4	96.1	97.8	102.9	O	40.0	15.0	28.3	14.3	97.6	5.3	
		Livista IA	87.3	85.2	88.4	92.9	94.6	O	37.1	14.6	25.6	14.3	91.6	3.0	
		Libahu IA	86.4	86.0	88.5	93.5	97.5	O	37.1	14.6	29.2	13.6	94.5	3.0	
		Hubang IA	87.5	86.2	87.0	91.6	98.8	O	39.3	14.6	27.5	14.3	95.8	3.0	
		Antioquia IA	80.4	75.2	83.1	85.9	87.4	VS	32.9	14.6	24.3	13.6	85.4	2.0	
		Catambao IA	75.7	62.6									0.0		
		Humayan IA	86.6	88.7	89.0	93.1	99.0	O	39.3	15.0	26.7	15.0	96.0	3.0	
		EQB IA	88.3	83.2	88.3	92.4	96.2	O	32.1	13.8	23.8	12.9	82.6	1.0	
		Subtotal							93%	96%	90%	95%	93%	26%	
							89.7								

Annex D

Engineering Data & Study

Final Report

Annex D

Engineering Data and Study

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Data & Status of NISs Short-listed

Table D1-1 Data and Status of NISS

CODE	REGION	Office (IMO) and Regional Irrigation Office (RIO)	NIS	MUNICIPALITY	FIRMED-UP SERVICE AREA, 2008 (ha)	IRRIGATED AREA in WET SEASON, 2008 (Ha)	IRRIGATED AREA in DRY SEASON, 2009 (Ha)	GAP between FIRMED-UP and IRRIGATED AREA (WET), 2008 (ha)	INCREASED IRRIGATION AREA AFTER REHABILITATION	Status of NIS
1	2	3	4	5	5	6	6	7	8	9
0101		Irrigation Management Office (IMO) and Regional Irrigation Office (RIO)	Laoag Vintar	Vintar, Sarrat, Bacarra, Laoag City	2,286	2,102	1,257	184	1,200	Deterioration of gates. Water right problem with CIS located upstream of diversion dam. It is necessary re-study on re-location main canal. Main canal along mountain foot have siltation problem, then re-study is required.
0102	Dingras		Dingras, Marcos	1,004	985	845	19	100	Not so much damaged. Repairing of metal works. Siltation problem in Tunnel. No Sabo dam constructed.	
0103	Madongan Area		Marcos, Dingras	2,933	740	750	2,193	2,600	Weir body downstream apron were seriously scoured. It is necessary the rehabilitation. No functioning left main canal. New intake facility for right main canal is required. Sabo dam constructed.	
0104	Solsona Area		Solsona, Dingras	1,340	431	385	909	800	Intake facility is damaged seriously. Gradient of river is steep then it affect siltation of gravel and stone in main canal. Right main canal and intake should be repaired urgently. No sabo dam constructed. A part of service areas are converted to CMS. No	
0105		Ilocos Norte	Labugaoon Area	Solsona	1,470	729	500	741	700	Weir is not damaged so much but it is necessity of repair of metal works. A part of lateral canal was filled up solid by flood and affected to 200 ha irrigation area. No problem of source of water. Sabo dam was constructed.
0106			Papa Area	Marcos, Bama, Nueva Era	2,337	1,220	560	1,117	600	Necessity of repair of metal works, a part of downstream weir apron and intake facility. It is being rehabilitated by local fund but it is insufficient budget. Reterorating canal lining and necessity of rehabilitation because the area consist of sandy to
0107			Sta. Lucia - Candon	Sta. Lucia, Sta Cruz, Candon City	1,423	1,423	350	0	400	Retaining wall problem and sedimentation in main canal. Check gates should be replaced
0108			Tegudin	Tegudin, Suyo, Sta Cruz	1,253	1,236	1,070	17	unclear	A part of Free Intake is scoured but it is being rehabilitated by local fund. Siphon located downstream of the intake also is being rehabilitated by local fund. Problem of protection dike. It is not clear that the system, specially intake system become m
0109		La Union	Amburayan	Sudipen, Luna, Bengar, Balaon	3,289	3,011	2,513	278	700	Intake facility is damaged. Collector drai ditches of main canal along hillside are required. Desiltation of canals.
0110		Pampanga-Bataan	San Fabian	Manaoag, San Jacinto, San Fabian	2,026	809	1,094	1,217	700	Ongoing rehabilitation works by local fund (P79M) but it is insufficient. JICA had a program on TA strengthening. Scouring of weir downstream apron. Siltation Problem
0111			Dumuloc	Bugallon	1,232	912	613	320	600	Downstream apron of weir was scoured. Necessity of replacement of Gates.
		Sub-total			20,593	9,771	7,085	4,599	8,400	
0301	R-3	Pampanga-Bataan	Porac-Gumain	Guagua, Floridablanca, Lubao, Sta Rita	3,126	1,816	2,625	2,651		Diversion Dam crest elevation has to be elevated due to increase in elevation at field level caused by lahar and ass flooding from eruption of Pinatubo Volcano, additional embankment of canal to raise operation water surface along the canal. Dredging and
0401		Lagna-Rizar	Sta. Cruz	Calauan, Victoria, Liliw, Nagcarlan, Pila, Sta Cruz	2,185	1,908	1,929	277		1) Sluice Gate at Dam replacement of operation from manual to engine driven, 2) Concrete canal lining on damaged areas due to encroachment of houses and buildings, 3)additional structures and crossings, 4) drainage improvement, road repair, 5) Replacement
0402	R-4	Quezon-Marinduque	Dumacao	Tayabas City, Lucena City, Pagbilao	1,839	1,394	1,423	445		1) Sluice Gate at Dam replacement of operation from manual to engine driven, 2) Concrete canal lining on damaged areas due to encroachment of houses and buildings, 3)additional structures and crossings, 4) drainage improvement, 5) access construction to d

Table D1-1 Data and Status of NISs

CODE	REGION	Irrigation Management Office (IMO) and Regional Irrigation Office (RIO)	NIS	MUNICIPALITY	FIRMED-UP SERVICE AREA, 2008 (Ha)	IRRIGATED AREA in WET SEASON, 2008 (Ha)	IRRIGATED AREA in DRY SEASON, 2009 (Ha)	GAP between FIRMED-UP and IRRIGATED AREA (WET), 2008 (ha)	INCREASED IRRIGATION AREA AFTER REHABILITATION	Status of NIS
1	2	3	4	5	5	6	6	7	8	9
0403		Palawan	Malagaog	Aborlan, Narra	3,014	2,289	1,720	725		1) Sluice Gate at Dam replacement of operation from manual to engine driven; 2) Concrete canal lining on damaged areas due pervious foundation, erosion, and siltation; 3) additional structures and crossings; 4) drainage improvement; 5) access construction
		Sub-total			7,038	5,591	5,072	1,447		
0601			Suaga	Mina, Poblacion, New Lucena	2,454	2,437	2,324	17	500	(1) Straightening/rechanneling of the river upstream of the dam; (2) construction of flood scouring protection downstream of the dam; (3) conversion of lifting mechanism from manual to mechanized; (4) repair/replacement of old structure steel gates and in
0602		Iloilo-Guimaras	Aganan	Iloilo City, Oton, Sta Barbara, San Miguel, Pavia	4,467	4,461	2,000	6	733	(1) Straightening/rechanneling of the river upstream of the dam; (2) concrete lining of selected canal sections; (3) repair of old structure steel gates and installation of new ones; (4) regraveling of roads; (5) repair of dam training wall
0603	R-6		Sta. Barbara	Leganes, Pavia, Sta Barbara, Iloilo City	3,062	2,659	2,500	403	738	(1) Straightening/rechanneling of the river upstream of the dam; (2) concrete lining of selected canal sections; (3) repair/replacement of old structure steel gates and installation of new ones; (4) regraveling of roads; (5) construction of flood scourin
0604		Negros-Occidental	Panglipan	Himamaylan City, Binalbagan	1,169	1,012	1,012	157	671	(1) Repair/replacement of old structure steel gates and installation of new ones; (2) concrete lining of selected canal sections; (3) construction of river bank protection works upstream of dam; (4) repair of dam ogee; (5) flood protection works downstream
		Sub-total			11,152	10,569	7,836	583		
1001			Manupali	Lantapan, Malaybalay City, Valencia City	1,800	1,537	1,573	263	1,700	1) Embankment re-construction along South Main Canal damaged by typhoon; 2) construction of check structure for "RE-USE" of drainage water; 3) repair of concrete canal lining; 4) installation of additional turnouts and gates; 5) lining of farmditches; 6) co
1002	R-10	Bukidnon	Pulangui	Malaybalay City, Quezon, Valencia City	10,557	10,038	9,971	519	800	1) Construction of protection wall at Paitan Dam; 2) repair works at Diversion Dam; 3) new and repair of concrete lining of main canal; 4) new canal structures construction; 5) improvement of drainage canal; 6) desilting of irrigation canal; 7) additional
1003			Muleta	Maranag, Don Carlos	1,800	1,369	1,354	431	650	1) Embankment re-construction of auxiliary berm; 2) construction of Dologon Impounding Dam; 3) repair of concrete canal lining; 4) installation of additional turnouts and gates; 5) construction of slab bridge; 6) construction of silt interceptor
		Sub-total			14,157	12,944	12,898	1,213		
1101		Davao del Sur	Mai	Matanao	2,635	2,500	2,406	135	900	(1) Existing concrete lining of canals are heavily damaged due to settling of poorly-compacted earthfill--need to reconstruct selected blocks; (2) Need to construct silt settling basin with ejector at the main canal; (3) regraveling of roads; (4) repair/rep
1102	R-11		Padada	Digos City, Hagonoy	2,520	2,492	2,492	28	580	(1) Concrete lining of selected canal sections; (2) repair and stabilization of diversion works; (3) repair/replacement of old structure steel gates and installation of new ones.
		Sub-total			5,155	4,992	4,898	163		

Table D1-1 Data and Status of NISS

CODE	REGION	Irrigation Management Office (MO) and Regional Irrigation Office (RIO)	NIS	MUNICIPALITY	FIRMED-UP SERVICE AREA, 2008 (Ha)	IRRIGATED AREA in WET SEASON, 2008 (Ha)	IRRIGATED AREA in DRY SEASON, 2009 (Ha)	GAP between FIRMED-UP and IRRIGATED AREA (WET), 2008 (ha)	INCREASED IRRIGATION AREA AFTER REHABILITATION	Status of NIS
1	2	3	4	5	6	6	6	7	8	9
1201		Sultan Kudarat	Lambayong	Gen SK Pandalun, Tacurong City, Lambayong, Pres Queirino	11,355	7,615	7,182	3,740	4,535	(1) Restoration of more than 4,000 has. Of irrigable areas rendered waterless since June 2008 because the canals serving them were cut off as a result of Typhoon Frank; (2) protection dikes; (3) reconstruction of destroyed structures and canals; (4) const
1202			Tacurong (Dumaguill)	Norallah, Tacurong City	1,761	1,412	1,368	349	539	(1) construction of sand settling basin and ejector due to high levels of sand load in the water; (2) drainage canals and structures; (3) regraveling of roads
1203			Banga	Surallah, Banga	2,546	2,505	2,505	41	615	(1) Repair/regraveling of roads; (2) repair/replacement of old structure steel gates and installation of new ones; (3) concrete lining of selected canal sections;
1204	R-12	South Cotabato-Sarangani	Marbel - 1	Koronadal City, Tantangan	1,856	1,812	1,834	44	464	(1) Widening & deepening of drainage canals; (2) repair/replacement of old structure steel gates and installation of new ones; (3) concrete lining of selected canal sections; (4) straightening/rechanneling of Bulok Creek to minimize flooding; (5) const
1205			Marbel - 2	Koronadal City, Lutayan	1,641	1,630	1,628	11	559	(1) Repair/regraveling of roads; (2) repair/replacement of old structure steel gates and installation of new ones; (3) concrete lining of selected canal sections; (4) major repair of road crossing structure
1206			Siluy Buayan	Gen Santos City	1,420	1,353	1,399	67	328	(1) Repair/replacement of old structure steel gates and installation of new ones; (2) straightening/dredging of Buayan River upstream of dam; (3) construction of flood scour protection works downstream of the dam; (4) construction of concrete lining in se
		Sub-total			20,579	16,327	15,916	4,252		
1301		Agusan del Norte-Surigao del Norte	Cabadbaran - Taguibo	Cabadbaran, Romualdez, Ampayon	2,500	2,287	2,300	213	600	1) Extension of weir of the dam and construction of protection dike, re-installation of loose protection works at downstream of apron of Cabadbaran Dam 2) repair of Taguibo Dam curtain wall, 3) construction of check structure for "RE-USE" of drainage wate
1302	R-13	Agusan del Sur	Simulao	Trento, Bunawan	2,540	2,289	2,268	251	660	1) Construction of logs loading dock concrete pavement upstream of dam, 2) repair of left incline wall, concrete blocks, training wall, and upgrading of steel gates lifting mechanism, 3) rehabilitation of project facilities, 4) repair and concrete lining of
		Sub-total			5,040	4,576	4,568	464		
		Total			86,840	66,586	60,998	15,372		

Annex D-2

Hydrological and Meteorological Data

HYDROLOGY AND METEOROLOGY

1. Rainfall

The annual rainfall intensities in the 32 sub-project areas nationwide vary widely, from the lowest of 1,253 mm. in Amburayan RIS in La Union, Region 1 to the highest of 3,214 mm. in Simulao RIS, Bukidnon, Region 13.

The mean annual rainfalls by region are estimated as follows:

- Region 1: 2,011 mm. for 11 sub-project areas located in the provinces of Ilocos Norte, Ilocos Sur, La Union & Pangasinan
- Region 3: 2,107 mm. for the lone project in Pampanga
- Region 4: 2,225 mm. for the 3 sub-projects located in the provinces of Laguna, Quezon and Palawan
- Region 6: 1,942 mm. for the 4 sub-projects located in the provinces of Iloilo and Negros Occidental
- Region 10: 1,832 mm. for the 3 sub-projects located in Bukidnon province
- Region 11: 1,221 mm. for the 2 sub-projects located in Davao del Sur province
- Region 12: 1,470 mm. for the 6 sub-projects located in the provinces of South Cotabato and Sultan Kudarat
- Region 13: 2,545 mm. for the 2 sub-projects located in Agusan del Sur and Agusan del Norte

Although the rainfall patterns vary in the different regions, the most common wet season months are May to October and the dry season months are November to April.

2. Development Potential

There are two ways of evaluating the development potential of the sub-projects in terms of water resources: (1) the difference between the quantity of water available in the river and the quantity being diverted to the canals, and (2) the ratio of water being diverted to the canals to the available water in the river source.

The table below shows the development potential of the different regions.

REGION	Quantity of River Discharge Q_r ($m^3/sec.$)	Quantity of Diverted Intake Discharge Q_a ($m^3/sec.$)	Difference $Q_p = Q_r - Q_a$ ($m^3/sec.$)	Ratio (Q_a/Q_r)
a. Region 1	8.27	1.61	6.66	0.19
b. Region 3	4.20	3.30	0.91	0.78
c. Region 4	6.21	2.85	3.35	0.46
d. Region 6	4.02	2.47	1.55	0.61
e. Region 10	21.36	7.79	13.58	0.36
f. Region 11	5.45	3.29	2.16	0.60
g. Region 12	8.53	3.63	4.91	4.91
h. Region 13	5.64	3.24	2.40	0.57

The difference (Q_p) represents the “excess” water in the systems in absolute quantities ($m^3/sec.$).

The ratio, on the other hand, represents the percentage of the river water being diverted to the canals. As a rule of thumb, the ratio should not exceed 0.80, which means not more than 80% of the river can be diverted to the canals. The lower is the ratio, the higher is the development potential. Looked at another way, the lower is the ratio, the higher is the “buffer stock” during the dry season.

3. Irrigation Water Supply

Comparing the data on water source discharges against the irrigation water requirements based on an average water duty of 1.8 liters per second per hectare, it appears that during the wet season, out of 32 systems, only 24 (75 %) have sufficient water supply while 8 (25%) experience supply insufficiency. On the other hand, during the dry season, only 20 (62%) have sufficient water supply, while 12 (38%) experience supply insufficiency. These explain the lower number of irrigated areas during the dry season.

The systems with water shortage are as follows:

RIS/Province/Region	Dry Season	Wet Season
Madongan RIS, Ilocos Norte, Region 1	Shortage	Excess
Papa Area RIS, Ilocos Sur, Region 1	Shortage	Shortage
Tagudin RIS, La Union, Region 1	Shortage	Excess
Amburayan RIS, Pangasinan, Region 1	Shortage	Shortage
Porac-Gumain RIS, Pampanga, Region 3	Shortage	Shortage
Malatgao RIS, Palawan, Region 4	Shortage	Shortage
Aganan RIS, Iloilo, Region 6	Shortage	Shortage
Sta. Barbara RIS, Iloilo, Region 6	Shortage	Shortage
Pangiplan RIS, Negros Occidental, Region 6	Shortage	Shortage
Mal RIS, Davao del Sur, Region 11	Shortage	Excess
Lambayong RIS, Sultan Kudarat, Region 12	Shortage	Excess
Marbel-1 RIS, South Cotabato, Region 12	Shortage	Shortage

The biggest reason for the much lower water supply during the dry season is the much diminished forest cover in all the sub-project areas. It is therefore of paramount importance that the remaining forests are guarded and managed by the government very closely in order that the already bad situation will not worsen.

Further, due to the shortage of water supply in the above systems, it is very important that proper water management and water conservation strategies be implemented such as rotation method of irrigation, control of water in the head gates and turn-outs and farm-level water re-use

Table D2-1 Hydrological and Meteorological Data (1/3)

Region		REGION I									
Code No.	0101	0102	0103	0104	0105	0106	0107	0108	0109	0110	0111
No.	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)
NIS	Laoag Vintar	Dingras	Madongan Area	Solsona Area	Labugaon Area	Papa Area	Sta. Lucia-Candon	Tagudin	Amburayan	San Fabian	Dumuloc
Firmed-up Service Area (ha)	#REF!	1,004	2,933	1,340	1,470	2,337	1,423	1,253	3,289	2,026	1,232
Area Increased with Project (ha)	184	19	2,193	909	741	1,117	0	17	403	1,217	320
Water Shed /Catchment Area (km ²)	212.30	932.30	153.80	79.00	100.50	51.40	153.00	230.00	124.00	297.00	200.00
Water Source	Vintar River	Bonga River	Madongan River	Solsona River	Labugaon River	Papa River	Buaya River	Chico River	Amburayan River	Bued River	Dumuloc & Cabatuan Rivers
Average River Discharge (cms)	10.89	20.93	6.85	6.25	7.19	2.79	7.73	3.28	2.30	16.89	5.87
Average Dry Season Discharge	7.33	14.08	4.74	3.08	5.65	1.78	4.78	2.14	2.12	4.27	5.43
Water Requirement (m ³ /sec)	#REF!	1.81	5.28	2.41	2.65	4.21	2.56	2.26	5.92	3.65	2.22
Annual Rainfall (mm)	2,070.00	2,070.00	2,070.00	2,070.00	2,070.00	2,070.00	2,205.00	2,205.00	1,253.10	1,929.70	2,106.70
Wet Season	May-Oct.	May-Oct.	May-Oct.	May-Oct.	May-Oct.	May-Oct.	May-Nov.	May-Nov.	May-Oct.	May-Oct.	May-Oct.
Dry Season	Nov.-Apr.	Nov.-Apr.	Nov.-Apr.	Nov.-Apr.	Nov.-Apr.	Nov.-Apr.	Dec.-Apr.	Dec.-Apr.	Nov.-Apr.	Nov.-Apr.	Nov.-Apr.
Wet Season Area (ha.)	2,102	985	740	431	729	1,220	1,423	1,263	3,011	809	912
Dry Season Area (ha.)	1,257	845	750	385	500	560	350	1,070	2,513	1,094	613

Table D2-1

Hydrological and Meteorological Data (2/3)

Region	REGION 3			REGION 4			REGION 6				REGION 10		
	Code No.	0301 (12)	0401 (13)	0402 (14)	0403 (15)	0601 (16)	0602 (17)	0603 (18)	0604 (19)	1001 (20)	1002 (21)	1003 (22)	
NIS	Porac-Gumain		Sta. Cruz	Dumacaa	Malatgao	Suague	Aganan	Sta. Barbara	Panglipan	Manupali	Pulangui	Muleta	
Firmed-up Service Area (ha)	3,126	2,185	1,839	3,014	3,014	2,454	4,467	3,062	1,169	1,800	10,557	1,800	
Area Increased with Project (ha)	1,286	277	445	725	725	17	6	403	157	263	519	431	
Water Shed /Catchment Area (km ²)	111.00	103.00	69.00	386.00	386.00	1,065.00	104.00	193.00	80.30	454.30	1,340.00	222.00	
Water Source	Porac & Gumain Rivers	Sta. Cruz (Lapad) River	Ibia & Dumacaa Rivers	Malatgao, Manaili, Tigman, Estrella Rivers	Suague River	Aganan River	Tigum River	Panglipan River	Manupali River	Pulangui River	Muleta River		
Average River Discharge (cms)	4.20	4.52	8.22	5.88	5.88	6.84	3.00	4.48	1.78	8.08	47.66	8.35	
Average Dry Season Discharge	3.36	4.95	9.69	5.30	5.30	5.60	2.38	3.69	1.78	7.17	49.62	8.70	
Water Requirement (m ³ /sec)	5.63	3.93	3.31	5.43	5.43	4.42	8.04	5.51	2.10	3.24	19.00	3.24	
Annual Rainfall (mm)	2,106.70	1,887.90	3,090.10	1,697.10	1,697.10	1,900.00	2,086.30	2,086.30	1,693.90	1,912.30	1,522.90	2,061.80	
Wet Season	June-Oct.	May-Oct.	Jun.-Oct.	May-Sept.	May-Sept.	Oct.-Jan.	Oct.-Jan.	Oct.-Jan.	May-Oct.	May-Oct.	Oct.-Mar.	May-Oct.	
Dry Season	Oct.-Feb.	Nov.-Apr.	Nov.-Mar.	Oct.-Apr.	Oct.-Apr.	May-Aug.	May-Aug.	May-Aug.	Nov.-Apr.	Nov.-Apr.	Apr.-Sept.	Nov.-Apr.	
Wet Season Area (ha.)	1,816	1,908.00	1,394.00	2,289.00	2,289.00	2,437	4,461	2,659	1,012	1,537	10,038	1,369	
Dry Season Area (ha.)	2,625	1,929.00	1,423.00	1,720.00	1,720.00	2,324	2,000	2,500	1,012	1,573	9,971	1,354	

Table D2-1

Hydrological and Meteorological Data (3/3)

Region	REGION 11			REGION 12							REGION 13	
	Code No.	1101 (23)	1102 (24)	1201 (25)	1202 (26)	1203 (27)	1204 (28)	1205 (29)	1206 (30)	1301 (31)	1302 (32)	
NIS	Mal	Padada		Lambayaong	Tacurong (Dumaguil)	Banga	Marbel - 1	Marbel - 2	Siluy-Buayan	Cabadbaran - Taguibo	Simulao	
Firmed-up Service Area (ha)	2,635	2,520		11,355	1,761	2,546	1,856	1,641	1,420	2,500	2,540	
Area Increased with Project (ha)	135	28		3,740	1,761	41	44	11	67	213	251	
Water Shed / Catchment Area (km ²)	152.00	364.00		527.50	482.50	307.00	203.00	265.00	553.00	298.80	445.00	
Water Source	Mal River	Padada River		Kapingkong River	Banga River- Kapingkong Rivers	Banga River	Palian & Kipalbig Rivers	Marbel River & Taplan River	Klinan, Siluay, Buayan, & Tinegacan Rivers	Cabadbaran & Taguibo Rivers	Simulao River	
Average River Discharge (cms)	3.98	6.92		18.33	17.32	4.93	2.80	3.60	4.22	6.10	5.49	
Average Dry Season Discharge	3.33	6.64		13.67	12.97	4.64	2.66	3.25	3.92	7.85	6.18	
Water Requirement (m ³ /sec)	4.74	4.54		20.44	3.17	4.58	3.34	2.95	2.56	4.50	4.57	
Annual Rainfall (mm)	1,508.00	934.10		1,413.60	1,394.80	2,281.70	1,218.30	1,221.30	1,292.70	1,876.10	3,214.70	
Wet Season	May-Oct.	May-Oct.		Mar.-Sept.	Mar.-Sept.	Mar-Aug	Apr.-Sept.	Mar-Aug	May-Oct.	May-Oct.	Nov.-Apr.	
Dry Season	Nov.-Apr.	Nov.-Apr.		Oct.-Feb.	Oct.-Feb.	Sept-Feb.	Oct.-March	Sept-Feb.	Nov.-Apr.	Nov. Apr.	May-Oct.	
Wet Season Area (ha.)	2,500	2,492		9,819	1,412	2,505	1,812	1,630	1,353	2,287	2,289	
Dry Season Area (ha.)	2,406	2,492		7,182	1,368	2,505	1,834	1,628	1,399	2,300	2,268	

Table D2-2

Monthly Average River Discharge (1/3)

Code No.	REGION I												Ave. Region I	REGION 3	Ave. Region 3	
	0101 (1)	0102 (2)	0103 (3)	0104 (4)	0105 (5)	0106 (6)	0107 (7)	0108 (8)	0109 (9)	0110 (10)	0111 (11)					
No.	Lacag Vintar	Dingras	Madongan Area	Solsona Area	Labugaon Area	Papa Area	Sta. Lucia-Candon	Tagudin	Amburayan	San Fabian	Dumuloc					
NIS	Vintar River	Bonga River	Madongan RIS	Solsona River	Labugaon RIS	Papa RIS	Sta. Lucia-Candon	Chico River	Amburayan River	Bued River	Dumuloc & Cabatuan Rivers					
River Name																
Catchment Area (km ²)	212.30	932.30	153.80	79.00	100.50	51.40	153.00	230.00	124.00	297.00	200.00	230.30	111.00	111.00	2,106.70	2,106.70
Rainfall (mm)	2,070.00	2,070.00	2,070.00	2,070.00	2,070.00	2,070.00	2,205.00	2,205.00	1,253.10	1,929.70	2,106.70	2,010.86	2,106.70	2,106.70	2,106.70	2,106.70
Monthly River Discharge (m ³ /s)																
January	7.12	13.69	4.00	3.56	4.55	1.54	5.00	2.21	2.34	2.80	5.99	4.80	3.42	3.42	4.80	3.42
February	6.20	11.91	3.50	2.33	3.68	1.54	4.00	1.85	2.20	1.70	5.63	4.05	3.01	3.01	4.05	3.01
March	4.91	9.43	3.50	1.36	2.98	1.32	3.10	1.67	1.97	4.40	5.04	3.61	2.55	2.55	3.61	2.55
April	3.81	7.32	3.00	1.02	2.59	1.22	2.50	1.82	1.89	1.20	4.83	2.84	2.54	2.54	2.84	2.54
May	7.33	14.09	4.87	2.95	3.38	1.27	3.80	2.60	2.11	7.00	5.40	4.98	4.61	4.61	4.98	4.61
June	15.07	28.96	7.40	8.19	6.55	2.67	8.10	4.39	2.52	18.80	6.45	9.92	4.87	4.87	9.92	4.87
July	16.98	32.63	9.69	12.41	9.29	4.31	11.00	5.09	2.51	21.40	6.42	11.98	5.10	5.10	11.98	5.10
August	15.29	29.37	11.11	14.06	11.29	4.71	15.00	5.67	2.50	44.00	6.39	14.49	4.77	4.77	14.49	4.77
September	16.46	31.62	11.44	9.86	12.07	5.23	15.00	5.26	2.65	58.90	6.78	15.93	5.15	5.15	15.93	5.15
October	15.58	29.94	9.19	9.09	9.81	4.65	11.10	3.43	2.52	27.00	6.45	11.71	5.78	5.78	11.71	5.78
November	10.60	20.37	8.35	6.37	9.28	3.17	8.20	2.87	2.22	8.50	5.68	7.78	4.55	4.55	7.78	4.55
December	11.33	21.77	6.10	3.82	10.84	1.89	5.90	2.44	2.11	7.00	5.40	7.15	4.10	4.10	7.15	4.10
Ave. Seasonal River Discharge (Qr) (m ³ /s)																
Nov-Apr.	7.33	14.08	4.74	3.08	5.65	1.78	4.78	2.14	2.12	4.27	5.43	5.04	3.36	3.36	5.04	3.36
May-Oct.	14.45	27.77	8.95	9.43	8.73	3.81	10.67	4.41	2.47	29.52	6.32	11.50	5.05	5.05	11.50	5.05
Annual	10.89	20.93	6.85	6.25	7.19	2.79	7.73	3.28	2.30	16.89	5.87	8.27	4.20	4.20	8.27	4.20

Table D2-2 Monthly Average River Discharge (2/3)

Code No.	REGION 4			REGION 6			REGION 10			Ave. Region 10	
	0401 (13)	0402 (14)	0403 (15)	0601 (16)	0602 (17)	0603 (18)	0604 (19)	1001 (20)	1002 (21)		1003 (22)
	Sta. Cruz	Dumacaa	Malatgao	Suague	Aganan	Sta. Barbara	Pangiplan	Manupali	Pulangui		Muleta
River Name	Sta. Cruz (Lapad) River	Dumacaa & Ibia Rivers	Malatgao, River	Suague River	Aganan River	Tigum River	Pangiplan River	Manupali River	Pulangui River	Muleta River	
Catchment Area (km ²)	103.00	69.00	386.00	1,065.00	104.00	193.00	80.30	454.30	1,340.00	222.00	
Rainfall (mm)	1,887.90	3,090.10	1,697.10	1,900.00	2,086.30	2,086.30	1,693.90	1,912.30	1,522.90	2,061.80	
Monthly River Discharge (m ³ /s)											
January	5.79	10.55	4.09	5.20	2.22	3.47	2.48	8.14	60.20	10.55	
February	4.49	6.86	3.03	4.83	1.37	2.10	2.12	7.39	56.88	9.97	
March	3.53	5.79	2.86	1.54	1.53	1.58	1.76	5.99	48.86	8.56	
April	2.62	4.74	2.44	2.05	1.78	1.50	0.76	5.49	37.44	6.56	
May	2.69	4.33	3.61	3.77	1.98	2.13	1.72	10.48	56.25	9.86	
June	3.36	5.12	6.72	7.54	2.91	3.33	1.14	7.68	46.90	8.22	
July	3.85	5.91	7.00	8.72	3.99	3.51	2.36	8.25	43.33	7.59	
August	4.28	6.53	7.37	8.78	3.44	6.34	2.48	7.76	42.26	7.41	
September	4.87	7.00	6.60	6.84	3.73	7.07	1.64	8.17	39.68	6.95	
October	5.51	11.59	7.49	12.82	5.60	9.22	1.36	11.56	45.73	8.01	
November	6.54	14.86	10.81	12.44	3.96	7.66	1.78	8.23	41.25	7.23	
December	6.73	15.31	8.57	7.53	3.44	5.82	1.76	7.78	53.09	9.30	
Ave. Seasonal River Discharge (Qr) (m ³ /s)											
Nov-Apr.	4.95	9.69	5.30	5.60	2.38	3.69	1.78	7.17	49.62	8.70	
May-Oct.	4.09	6.75	5.30	8.08	3.61	5.27	1.78	8.98	45.69	8.01	
Annual	4.52	8.22	5.88	6.84	3.00	4.48	1.78	8.08	47.66	8.35	

Table D2-2 Monthly Average River Discharge (3/3)

Code No.	REGION 11			REGION 12								Ave. Region 12		REGION 13			Ave. Region 13
	1101 (23)	1102 (24)	Padada	1201 (25)	1202 (26)	1203 (27)	1204 (28)	1205 (29)	1206 (30)	1207 (31)	1208 (32)	1209 (33)	1210 (34)	1211 (35)	1212 (36)	1213 (37)	
No.	Mal	Padada	Lambayong	Tacurong (Dumaguili)	Banga	Marbel - 1	Marbel - 2	Siluyan Buayan Kurren	Siluyan Buayan Tinagacan	Cabadbaran - Taguibo	Cabadbaran - Taguibo	Cabadbaran - Taguibo	Cabadbaran - Taguibo	Cabadbaran - Taguibo	Cabadbaran - Taguibo	Cabadbaran - Taguibo	
NIS	Mal River	Padada River	Lambayaong River	Banga- Kapingkong River	Banga River	Palian & Kipalbig Rivers	Marbel River & Taplan River	Siluyan, Buayan, & Tinagacan Rivers	Siluyan, Buayan, & Tinagacan Rivers	Cabadbaran & Taguibo Rivers	Cabadbaran & Taguibo Rivers	Cabadbaran & Taguibo Rivers	Cabadbaran & Taguibo Rivers	Cabadbaran & Taguibo Rivers	Cabadbaran & Taguibo Rivers	Cabadbaran & Taguibo Rivers	Simulao River
River Name	152.00	364.00	527.50	482.50	307.00	203.00	265.00	553.00	553.00	298.80	298.80	298.80	298.80	298.80	298.80	298.80	445.00
Catchment Area (km ²)	1,508.00	934.10	1,413.60	1,394.80	2,281.70	1,218.30	1,221.30	1,292.70	1,292.70	1,876.10	1,876.10	1,876.10	1,876.10	1,876.10	1,876.10	1,876.10	3,214.70
Rainfall (mm)																	
Monthly River Discharge (m ³ /s)																	
January	3.61	6.38	13.94	13.24	4.93	2.69	3.18	4.57	4.57	8.42	8.42	8.42	8.42	8.42	8.42	8.42	6.00
February	3.20	6.66	10.90	10.35	4.20	2.56	2.80	4.37	4.37	11.67	11.67	11.67	11.67	11.67	11.67	11.67	6.98
March	3.19	6.91	8.25	7.84	4.28	2.36	2.71	4.09	4.09	5.31	5.31	5.31	5.31	5.31	5.31	5.31	5.77
April	2.71	6.31	7.24	7.05	4.22	2.65	2.70	1.80	1.80	4.58	4.58	4.58	4.58	4.58	4.58	4.58	8.66
May	3.75	6.79	10.64	10.11	4.98	2.79	3.02	4.36	4.36	4.08	4.08	4.08	4.08	4.08	4.08	4.08	5.19
June	4.41	7.19	20.50	19.48	5.41	3.04	3.60	4.61	4.61	5.13	5.13	5.13	5.13	5.13	5.13	5.13	3.99
July	5.13	7.45	21.65	20.57	5.61	3.09	3.90	4.68	4.68	4.59	4.59	4.59	4.59	4.59	4.59	4.59	3.70
August	5.23	7.14	30.46	28.94	4.71	2.80	4.38	4.48	4.48	3.73	3.73	3.73	3.73	3.73	3.73	3.73	3.77
September	4.96	7.45	27.03	25.68	5.20	2.94	4.42	4.55	4.55	4.81	4.81	4.81	4.81	4.81	4.81	4.81	8.09
October	4.24	7.23	27.64	25.23	5.40	2.97	4.38	4.39	4.39	3.79	3.79	3.79	3.79	3.79	3.79	3.79	4.01
November	3.72	6.71	20.73	19.44	5.36	2.94	4.49	4.54	4.54	6.76	6.76	6.76	6.76	6.76	6.76	6.76	4.43
December	3.55	6.84	20.97	19.92	4.84	2.78	3.62	4.14	4.14	10.37	10.37	10.37	10.37	10.37	10.37	10.37	5.24
Ave. Seasonal River Discharge (Qr) (m ³ /s)																	
Nov-Apr.	3.33	6.64	13.67	12.97	4.64	2.66	3.25	3.92	3.92	7.85	7.85	7.85	7.85	7.85	7.85	7.85	6.18
May-Oct.	4.62	7.21	22.99	21.67	5.22	2.94	3.95	4.51	4.51	4.36	4.36	4.36	4.36	4.36	4.36	4.36	4.79
Annual	3.98	6.92	18.33	17.32	4.93	2.80	3.60	4.22	4.22	8.53	8.53	8.53	8.53	8.53	8.53	8.53	5.49

Table D2-3 Monthly Average Diverted Intake Discharge (1/3)

Code No. No.	1 REGION 1											REGION 3		
	0101 (1)	0102 (2)	0103 (3)	0104 (4)	0105 (5)	0106 (6)	0107 (7)	0108 (8)	0109 (9)	0110 (10)	0111 (11)	Ave. Region 3		
	Lacag Vintar	Dingras	Madongan Area	Solsona Area	Labugaon Area	Papa Area	Sta. Lucia- Candon	Tagudin	Amburayan	San Fabian	Dumuloc	Porac- Gumain		
Average Irrigated Area (Ha)														
Dry Season	1,257.00	845.00	750.00	385.00	500.00	560.00	350.00	1,070.00	2,513.00	1,094.00	613.00	903.36	2,625.00	2,625.00
Wet Season	2,102.00	985.00	740.00	431.00	729.00	1,220.00	1,423.00	1,236.00	3,011.00	809.00	912.00	1,236.18	1,816.00	1,816.00
Monthly Diverted Intake Discharge (m ³ /s)														
January	2.35	1.60	3.53	1.80	1.98	1.84	0.95	1.88	2.11	1.49	0.90	1.86	2.74	2.74
February	1.86	1.41	3.38	1.50	1.65	1.45	0.73	1.28	1.98	1.20	0.79	1.57	2.42	2.42
March	1.34	1.06	1.32	1.00	1.10	0.31	0.75	0.70	1.77	0.69	0.57	0.97	2.05	2.05
April	1.20	0.52	1.36	0.65	0.88	0.96	0.40	0.32	1.70	0.19	0.40	0.78	2.04	2.04
May	1.74	0.30	1.43	0.68	2.65	1.05	0.35	1.00	1.90	0.06	0.57	1.07	3.30	3.30
June	2.76	1.23	3.08	0.78	2.53	1.86	1.28	2.15	2.27	0.54	1.17	1.79	3.48	3.48
July	2.34	1.82	3.01	0.70	2.48	1.65	1.31	2.26	2.26	2.54	1.35	1.97	3.64	3.64
August	2.36	1.22	3.22	1.01	2.60	1.64	2.08	2.18	2.25	2.76	1.36	2.06	4.13	4.13
September	2.34	1.70	2.53	1.10	2.35	1.96	2.30	2.09	2.38	2.61	1.00	2.03	4.72	4.72
October	2.27	0.95	2.78	0.75	2.21	1.36	2.03	2.05	2.27	2.18	0.75	1.78	4.13	4.13
November	1.95	1.09	2.92	0.65	1.82	1.60	1.52	1.93	2.00	1.88	0.90	1.66	3.65	3.65
December	2.34	1.30	3.86	0.68	1.79	1.61	1.32	1.89	1.90	1.56	0.81	1.73	3.29	3.29
Ave. Diverted Intake Discharge (Qa) (m ³ /s)														
Nov-Apr.	1.84	1.16	2.73	1.05	1.54	1.30	0.95	1.33	1.91	1.17	0.73	1.43	2.70	2.70
May-Oct.	2.30	1.20	2.68	0.84	2.47	1.59	1.56	1.96	2.22	1.78	1.03	1.78	3.90	3.90
Annual	2.07	1.18	2.70	0.94	2.00	1.44	1.25	1.64	2.07	1.48	0.88	1.61	3.30	3.30
Ave. Unit Diverted Intake Discharge (lit/sec/ha)														
Nov-Apr.	1.46	1.38	3.64	2.72	3.07	2.31	2.70	1.25	0.76	1.07	1.19	1.96	1.03	1.03
May-Oct.	1.09	1.22	3.61	1.94	3.39	1.30	1.10	1.58	0.74	2.20	1.13	1.75	2.15	2.15
Annual	1.23	1.29	3.63	2.31	3.26	1.62	1.41	1.43	0.75	1.55	1.15	1.78	1.49	1.49

Table D2-3

Monthly Average Diverted Intake Discharge (2/3)

Code No.	REGION 4			REGION 6				REGION 10			Ave. Region 10	
	0401 (13)	0402 (14)	0403 (15)	Ave. Region 4		0601 (16)	0602 (17)	0603 (18)	0604 (19)	1001 (20)		1002 (21)
NIS	Sta. Cruz	Dumacaa	Malatgao	Ave. Region 6				Manupali	Pulangui	Muleta	Ave. Region 10	
Average Irrigated Area (Ha)												
Dry Season	1,929.00	1,423.00	1,720.00	1,690.67	2,324.00	2,000.00	2,500.00	1,012.00	1,959.00	1,573.00	9,971.00	1,354.00
Wet Season	1,908.00	1,394.00	2,289.00	1,863.67	2,437.00	4,461.00	2,659.00	1,012.00	2,642.25	1,537.00	10,038.00	1,369.00
Monthly Diverted Intake Discharge (m ³ /s)												
January	3.07	2.15	3.56	2.93	2.88	1.78	3.12	1.98	2.44	2.65	19.00	3.04
February	2.66	2.09	3.18	2.64	3.50	1.10	1.89	1.70	2.05	2.46	18.97	3.40
March	2.33	1.86	2.74	2.31	1.38	1.22	1.42	1.41	1.36	2.60	18.30	2.43
April	1.97	1.57	2.33	1.96	1.84	1.43	1.80	0.61	1.42	2.30	17.05	2.43
May	1.67	1.39	2.35	1.80	2.87	1.59	2.03	1.38	1.97	2.52	17.98	2.41
June	1.97	1.69	4.30	2.65	3.70	2.34	3.35	0.91	2.57	2.52	18.50	2.53
July	3.81	1.82	4.67	3.43	3.22	3.20	3.14	1.89	2.86	2.83	18.61	2.13
August	2.87	1.77	4.38	3.01	3.26	2.76	3.18	1.98	2.80	2.80	18.76	1.68
September	3.35	1.75	4.85	3.32	3.78	2.99	3.57	1.31	2.91	2.85	17.17	1.43
October	3.23	1.62	5.11	3.32	3.32	4.50	4.11	1.09	3.26	2.50	17.95	2.10
November	3.47	1.95	5.10	3.51	3.25	3.18	4.45	1.42	3.08	3.00	18.17	3.14
December	3.43	1.88	4.77	3.36	3.25	2.76	4.30	1.41	2.93	2.95	18.08	3.02
Ave. Diverted Intake Discharge (Qa) (m ³ /s)												
Nov-Apr.	2.82	1.92	3.61	2.78	2.68	1.91	2.83	1.42	2.21	2.66	18.26	2.91
May-Oct.	2.82	1.67	4.28	2.92	3.36	2.90	3.23	1.43	2.73	2.67	18.16	2.05
Annual	2.82	1.79	3.95	2.85	3.02	2.40	3.03	1.42	2.47	2.67	18.21	2.48
Ave. Unit Diverted Intake Discharge (lit/sec/ha)												
Nov-Apr.	1.46	1.35	2.10	1.64	1.15	0.96	1.13	1.40	1.16	1.69	1.83	2.15
May-Oct.	1.48	1.20	1.87	1.52	1.38	0.65	1.21	1.41	1.16	1.74	1.81	1.50
Annual	1.47	1.27	1.97	1.57	1.27	0.74	1.17	1.41	1.15	1.71	1.82	1.82

Table D2-3 Monthly Average Diverted Intake Discharge (3/3)

Code No. No.	REGION 11			REGION 12						Ave. Region 12		REGION 13		Ave. Region 13
	1101 (23)	1102 (24)	Ave. Region 11	1201 (25)	1202 (26)	1203 (27)	1204 (28)	1205 (29)	1206 (30)	1301 (31)	1302 (32)			
NIS	Mal	Padada		Lambayong	Tacurong (Dumaguil)	Banga	Marbel - 1	Marbel - 2	Siluyay-Buayan	Cabadbaran - Taguibo	Simulao			
Average Irrigated Area (Ha)														
Dry Season	2,406.00	2,492.00	2,449.00	7,182.00	1,368.00	2,505.00	1,834.00	1,628.00	1,399.00	2,300.00	2,268.00	2,284.00		
Wet Season	2,500.00	2,492.00	2,496.00	9,819.00	1,412.00	2,505.00	1,812.00	1,630.00	1,353.00	2,287.00	2,289.00	2,288.00		
Monthly Diverted Intake Discharge (m ³ /s)														
January	2.59	4.26	3.43	12.55	1.40	3.56	1.97	1.74	2.34	2.80	4.58	3.69		
February	2.57	4.16	3.36	8.62	1.20	3.18	2.07	1.62	2.19	2.78	6.28	4.53		
March	2.57	3.90	3.24	3.25	1.63	3.00	1.68	1.45	2.29	2.65	4.80	3.73		
April	2.18	1.02	1.60	2.80	0.96	2.81	1.93	1.45	1.32	2.39	2.91	2.65		
May	3.02	2.03	2.52	9.58	1.50	3.26	2.02	1.74	2.35	2.17	3.46	2.82		
June	3.15	4.54	3.85	15.08	2.60	3.44	1.88	1.72	2.42	2.43	3.59	3.01		
July	3.66	4.54	4.10	11.02	1.94	3.29	1.96	1.69	2.43	3.34	3.33	3.34		
August	3.74	4.54	4.14	11.40	1.37	3.48	1.87	1.66	2.32	2.98	3.39	3.19		
September	3.54	4.02	3.78	12.08	1.66	3.15	1.72	1.66	2.48	2.56	5.28	3.92		
October	3.03	1.35	2.19	13.06	1.58	3.06	2.05	1.76	2.24	1.78	2.75	2.27		
November	3.00	4.10	3.55	17.14	1.95	3.08	2.17	2.02	2.48	2.56	2.11	2.34		
December	2.85	4.53	3.69	15.54	2.24	3.23	2.02	1.67	2.10	3.00	3.89	3.45		
Ave. Diverted Intake Discharge (Qa) (m ³ /s)														
Nov-Apr.	2.63	3.66	3.14	9.98	1.56	3.14	1.97	1.66	2.12	2.70	4.10	3.40		
May-Oct.	3.36	3.50	3.43	12.04	1.78	3.28	1.92	1.70	2.37	2.54	3.63	3.09		
Annual	2.99	3.58	3.29	11.01	1.67	3.21	1.95	1.68	2.25	2.62	3.86	3.24		
Ave. Unit Diverted Intake Discharge (lit/sec/ha)														
Nov-Apr.	1.09	1.47	1.28	1.39	1.14	1.25	1.08	1.02	1.52	1.17	1.81	1.49		
May-Oct.	1.34	1.41	1.38	1.23	1.26	1.31	1.06	1.05	1.75	1.11	1.59	1.35		
Annual	1.22	1.44	1.33	1.30	1.20	1.28	1.07	1.03	1.63	1.14	1.70	1.42		

Table D2-4 Development Potential for Water Resources (1/3)

Code No.	REGION I											REGION 3	
	0101	0102	0103	0104	0105	0106	0107	0108	0109	0110	0111	Ave. Region 3	
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)	Ave. Region 3
NIS	Laog Vintar	Dingras	Madongan Area	Solsona Area	Labugaon Area	Papa Area	Sta. Lucia-Candon	Tagudin	Amburayan	San Fabian	Dumuloc	Porac-Gumain	
Ave. Seasonal River Discharge (Qr) (m ³ /s)													
Nov-Apr.	7.33	14.08	4.74	3.08	5.65	1.78	4.78	2.14	2.12	4.27	5.43	3.36	3.36
May-Oct.	14.45	27.77	8.95	9.43	8.73	3.81	10.67	4.41	2.47	29.52	6.32	5.05	5.05
Annual	10.89	20.93	6.85	6.25	7.19	2.79	7.73	3.28	2.30	16.89	5.87	4.20	4.20
Seasonal diverted intake (Revised) Discharge (Qa) (m ³ /s)													
Nov-Apr.	1.84	1.16	2.73	1.05	1.54	1.30	0.95	1.33	1.91	1.17	0.73	2.70	2.70
May-Oct.	2.30	1.20	2.68	0.84	2.47	1.59	1.56	1.96	2.22	1.78	1.03	3.90	3.90
Annual	2.07	1.18	2.70	0.94	2.00	1.44	1.25	1.64	2.07	1.48	0.88	3.30	3.30
Development Potential (Qp) = (Qr) - (Qa) (m ³ /sec)													
Nov-Apr.	5.49	12.92	2.01	2.03	4.12	0.49	3.84	0.81	0.21	3.10	4.70	0.66	0.66
May-Oct.	12.15	26.56	6.28	8.59	6.26	2.22	9.11	2.45	0.25	27.74	5.28	1.15	1.15
Annual	8.82	19.74	4.14	5.31	5.19	1.35	6.47	1.63	0.23	15.42	4.99	0.91	0.91
Ratio of (Qa) / (Qr)													
Nov-Apr.	0.25	0.08	0.58	0.34	0.27	0.73	0.20	0.62	0.90	0.27	0.13	0.80	0.80
May-Oct.	0.16	0.04	0.30	0.09	0.28	0.42	0.15	0.44	0.90	0.06	0.16	0.77	0.77
Annual	0.19	0.06	0.39	0.15	0.28	0.52	0.16	0.50	0.90	0.09	0.15	0.78	0.78

Table D2-4 Development Potential for Water Resources (2/3)

Code No.	REGION 4			Ave. Region 4	REGION 6				Ave. Region 6	REGION 10			Ave. Region 10
	0401 (13)	0402 (14)	0403 (15)		0601 (16)	0602 (17)	0603 (18)	0604 (19)		1001 (20)	1002 (21)	1003 (22)	
NIS	Sta. Cruz	Dumacaa	Malatgao		Suague	Aganan	Sta. Barbara	Pangiplan	Manupali	Pulangui	Muleta		
Ave. Seasonal River Discharge (Qr) (m ³ /s)													
Nov-Apr.	4.95	9.69	5.30	6.65	5.60	2.38	3.69	1.78	7.17	49.62	8.70	21.83	
May-Oct.	4.09	6.75	5.30	5.38	8.08	3.61	5.27	1.78	8.98	45.69	8.01	20.89	
Annual	4.52	8.22	5.88	6.21	6.84	3.00	4.48	1.78	8.08	47.66	8.35	21.36	
Seasonal diverted intake (Revised) Discharge (Qa) (m ³ /s)													
Nov-Apr.	2.82	1.92	3.61	2.78	2.68	1.91	2.83	1.42	2.66	18.26	2.91	7.94	
May-Oct.	2.82	1.67	4.28	2.92	3.36	2.90	3.23	1.43	2.67	18.16	2.05	7.63	
Annual	2.82	1.79	3.95	2.85	3.02	2.40	3.03	1.42	2.67	18.21	2.48	7.79	
Development Potential (Qp) = (Qr) - (Qa) (m ³ /sec)													
Nov-Apr.	2.13	7.77	1.69	3.86	2.91	0.47	0.86	0.36	4.51	31.36	5.79	13.88	
May-Oct.	1.28	5.08	1.02	2.46	4.72	0.71	2.04	0.36	6.31	27.53	5.96	13.27	
Annual	1.70	6.42	1.94	3.35	3.82	0.59	1.45	0.36	5.41	29.44	5.87	13.58	
Ratio of (Qa) / (Qr)													
Nov-Apr.	0.57	0.20	0.68	0.42	0.48	0.80	0.77	0.80	0.37	0.37	0.33	0.36	
May-Oct.	0.69	0.25	0.81	0.54	0.42	0.80	0.61	0.80	0.30	0.40	0.26	0.36	
Annual	0.62	0.22	0.67	0.46	0.44	0.80	0.68	0.80	0.33	0.38	0.30	0.36	

Table D2-4 Development Potential for Water Resources (3/3)

Code No.	REGION 11			REGION 12								REGION 13		
	1101	1102	Ave. Region 11	1201	1202	1203	1204	1205	1206	Ave. Region 12	1301	1302	Ave. Region 13	
	(23)	(24)		(25)	(26)	(27)	(28)	(29)	(30)		(31)	(32)		
NIS	Mal	Padada		Lambayong	Tacurong (Dumaguil)	Banga	Marbel - 1	Marbel - 2	Siluy-Buayan	Buayan	Cabadbaran - Taguibo	Simulao		
Ave. Seasonal River Discharge (Qt) (m ³ /s)														
Nov-Apr.	3.33	6.64	4.98	13.67	12.97	4.64	2.66	3.25	3.92	6.85	6.18	7.02	6.60	
May-Oct.	4.62	7.21	5.92	22.99	21.67	5.22	2.94	3.95	4.51	10.21	4.79	4.57	4.68	
Annual	3.98	6.92	5.45	18.33	17.32	4.93	2.80	3.60	4.22	8.53	5.49	5.79	5.64	
Seasonal diverted intake (Revised) Discharge (Qa) (m ³ /s)														
Nov-Apr.	2.63	3.66	3.14	9.98	1.56	3.14	1.97	1.66	2.12	0.57	2.70	4.10	3.40	
May-Oct.	3.36	3.50	3.43	12.04	1.78	3.28	1.92	1.70	2.37	0.56	2.54	3.63	3.09	
Annual	2.99	3.58	3.29	11.01	1.67	3.21	1.95	1.68	2.25	0.57	2.62	3.86	3.24	
Development Potential (Qp) = (Qt) - (Qa) (m ³ /sec)														
Nov-Apr.	0.70	2.98	1.84	3.69	11.41	1.50	0.69	1.59	1.80	6.28	3.48	2.92	3.20	
May-Oct.	1.27	3.71	2.49	10.95	19.89	1.94	1.02	2.25	2.14	9.65	2.25	0.94	1.59	
Annual	0.98	3.34	2.16	7.32	15.65	1.72	0.86	1.92	1.97	7.97	2.87	1.93	2.40	
Ratio of (Qa) / (Qt)														
Nov-Apr.	0.79	0.55	0.63	0.73	0.12	0.68	0.74	0.51	0.54	0.08	0.44	0.58	0.51	
May-Oct.	0.73	0.49	0.58	0.52	0.08	0.63	0.65	0.43	0.53	0.05	0.53	0.79	0.66	
Annual	0.75	0.52	0.60	0.60	0.10	0.65	0.69	0.47	0.53	0.07	0.48	0.67	0.57	

Annex D-3

Engineering Data on NIS

Table D3-1 General Information and Dimension of Diversion Dam (1/3)

Code No.	REGION 1											REGION 3		
	0101 (1)	0102 (2)	0103 (3)	0104 (4)	0105 (5)	0106 (6)	0107 (7)	0108 (8)	0109 (9)	0110 (10)	0111 (11)	0301 (12)		
NIS	Laoag Vintar	Dingras	Madongan Area	Solsona Area	Labugaon Area	Papa Area	Sta. Lucia-Candon	Tagudin	Amburayan	San Fabian	Dumuloc	Porac	Gumain	
Diversion Dam Name	Vintar	Dingras Int.	Madongan	Solsona	Labugaon	Papa	Sta. Lucia-Candon	Tagudin	Amburayan	San Fabian	Dumuloc	Porac	Gumain	
FUSA (Ha.)	2,286.00	1,004.00	2,933.00	1,340.00	1,470.00	2,337.00	1,423.00	1,253.00	3,289.00	2,026.00	1,232.00		3,126.00	
Intake Discharge (m ³ /s)	3.70	1.80	7.80	2.29	2.10	2.87	4.00	5.74	7.39	17.00	2.21	2.50	4.28	
Flood Discharge (m ³ /s)	2,687.00	1,680.00	5,640.00	2,160.00	1,280.00	442.55	90.00	N/A	N/A	N/A	760.00	N/A	N/A	
Diversion Dam														
Width (m)	200.00		136.22	75.00	45.00	159.80	93.00	33.00		413.00	77.00	54.30	224.00	
Height (m)	1.50		3.40	3.00	3.50	2.85	1.35	2.15		3.50	3.20	2.90	2.20	
Spillway (weir, gate)														
Width (m)	180.00		126.00	37.00	37.00	147.40	83.00	27.50		406.00	68.00	46.30	224.00	
Height (m)	1.50		4.15	2.60	2.60	2.85	1.60	2.10		3.50	2.00	1.40	2.20	
Length (m)	20.00		26.00	21.50	17.00	24.00	21.00	25.00		20.60	58.00	15.90	15.90	
Sluice Way (gate)														
Width (m)	4.85		5.25	3.50	3.50	5.00	2.50	2.50		6.00	4.00	2.73	3.22	
Height (m)	3.20		2.05	1.85	1.85	1.85	2.00	2.10		2.50	2.50	2.90	2.20	
No. (set)	1.00		2.00	2.00	2.00	2.00	3.00	2.00		1.00	1.00	2.00	2.00	
Intake (gate)														
Width (m)	1.20	1.20	2.50	2.00	2.10	2.20	1.90	1.30	1.20	0.90	1.50	1.50	1.35	
Height (m)	1.20	1.20	1.20	1.30	1.00	1.20	1.70	1.00	1.60	1.00	1.50	1.50	2.20	
No. (set)	4.00	3.00	5.00	5.00	4.00	5.00	2.00	4.00	6.00	3.00	1.00	5.00	5.00	
Protection Dike														
Length (m)	50.00	60.00	32.40	120.00	100.00	120.00	350.00	143.00	-	180.00	68.00	40.00	30.00	
Height (m)	3.75	3.50	7.50	4.50	6.50	7.00	5.00	6.00	-	4.50	3.50	3.00	4.00	
Protection Side-wall														
Length (m)	50.00	60.00	38.24	32.00	50.00	46.50	42.00	34.40	-	15.00	20.00	23.90	23.90	
Height (m)	2.50	5.00	3.00	4.00	3.00	2.75	5.00	6.00	-	20.00	2.50	7.50	7.50	

Table D3-1

General Information and Dimension of Diversion Dam (2/3)

	REGION 4				REGION 6				REGION 10				REGION 11	
	0401 (13)	0402 (14)	0403 (15)	0601 (16)	0602 (17)	0603 (18)	0604 (19)	1001 (20)	1002 (21)	1003 (22)	1101 (23)	1102 (24)		
NIS	Sta. Cruz	Dumacaa	Malatgao	Suague	Aganan	Sta. Barbara	Pangiplan	Manupali	Pulangui	Muleta	Mal	Padada		
Diversion Dam Name	Sta. Cruz	Dumacaa	Malatgao	Suague	Aganan	Sta. Barbara	Pangiplan	Manupali	Pulangui	Muleta	Dongan Pekong	Padada		
FUSA (Ha.)	2,185.00	1,839.00	3,014.00	2,454.00	4,467.00	3,062.00	1,169.00	1,800.00	10,557.00	1,800.00	2,635.00	2,520.00		
Intake Discharge (m ³ /s)	3.86	5.50	7.58	6.43	8.25	7.77	1.64	10.73	19.80	6.50	5.30	7.55		
Flood Discharge (m ³ /s)	750.00	230.00	2,330.00	3,830.00	830.00	N/A	690.00	333.00	584.00	60.00	370.00	N/A		
Diversion Dam														
Width (m)	80.00	53.00	162.20	204.50	81.50	69.00	83.00	50.00	137.00	39.00	27.90	95.00		
Height (m)	8.00	4.50	2.80	2.44	2.70	1.40	3.00	5.50	2.80	3.50	2.00	3.50		
Spillway (weir, gate)														
Width (m)	75.00	48.00	137.00	199.00	76.90	62.50	80.00	40.00	127.00	30.00	27.90	95.00		
Height (m)	3.00	2.00	2.80	2.44	5.81	2.00	2.50	5.50	2.80	3.50	3.60	3.50		
Length (m)	8.50	N/A	23.00	16.00	52.00	77.00	15.50	27.50	22.00	27.15	25.00	15.00		
Sluice Way (gate)														
Width (m)	5.00	4.00	5.20	4.60	4.60	4.30	3.05	2.00	4.00	3.50	2.70	4.50		
Height (m)	3.00	4.50	1.80	2.65	2.90	2.00	1.90	3.50	2.80	3.00	2.80	3.00		
No. (set)	1.00	1.00	2.00	1.00	1.00	1.00	2.00	2.00	2.00	2.00	2.00	1.00		
Intake (gate)														
Width (m)	1.80	0.90	4.00	3.60	1.85	2.00	1.20	2.00	1.50	1.40	1.20	2.00		
Height (m)	2.80	0.90	1.20	1.30	1.45	1.30	1.20	3.50	1.90	1.00	1.20	2.00		
No. (set)	3.00	4.00	1.00	2.00	7.00	6.00	2.00	2.00	7.00	2.00	3.00	2.00		
Protection Dike														
Length (m)	-	20.00	100.00	N/A	135.70	30.00	60.00	800.00	61.00	-	33.07	100.00		
Height (m)	-	12.00	8.00	N/A	5.50	8.50	2.50	8.00	7.50	-	5.60	2.00		
Protection Side-wall														
Length (m)	50.00	20.00	110.20	-	-	-	-	60.00	1,000.00	-	27.00	-		
Height (m)	7.00	12.00	8.00	-	-	-	-	8.00	8.00	-	6.50	-		

Table D3-1 General Information and Dimension of Diversion Dam (3/3)

Code No.	REGION 12							REGION 13			MEAN	MAX.	MIN.
	1201 (25)	1202 (26)	1203 (27)	1204 (28)	1205 (29)	1206 (30)	1301 (31)	1302 (32)					
NIS	Lambayaon	Tacurong (Dumaguil)	Banga	Marbel - 1	Marbel - 2	Siluy-Buayan	Cabadbaran - Taguibo	Simulao					
Diversion Dam Name	Lambayaon	Tacurong (Dumaguil)	Banga	Marbel - 1	Marbel - 2	Siluy-Buayan	Cabadbaran - Taguibo	Simulao					
FUSA (Ha.)	11,355.00	1,761.00	2,546.00	1,856.00	1,641.00	1,420.00	2,500.00	2,540.00	2,713.75	11,355.00	1,004.00		
Intake Discharge (m ³ /s)	18.75	3.60	6.72	2.82	2.82	2.72	62.52	6.16	7.90	62.52	1.64		
Flood Discharge (m ³ /s)	360.00	200.00	4,780.00	1,210.00	580.00	100.00	63.00	1,980.00	1,308.44	5,640.00	60.00		
Diversion Dam													
Width (m)	63.60	52.00	38.00	54.00	52.00	92.00	65.00	192.10	103.26	413.00	27.90		
Height (m)	2.83	1.60	3.00	4.80	3.30	6.00	1.50	4.00	3.18	8.00	1.35		
Spillway (weir, gate)													
Width (m)	56.60	52.00	38.00	54.00	52.00	92.00	55.00	140.00	94.20	406.00	27.50		
Height (m)	2.80	1.50	3.00	4.80	3.20	3.00	1.50	4.00	2.90	5.81	1.40		
Length (m)	63.80	51.85	10.25	23.50	14.00	63.50	32.00	24.50	28.57	77.00	8.50		
Sluice Way (gate)													
Width (m)	6.30	3.87	2.00	2.44	2.50	3.50	4.60	2.90	3.83	6.30	2.00		
Height (m)	3.00	2.15	4.80	3.80	2.40	3.00	2.90	3.00	2.71	4.80	1.80		
No. (set)	1.00	2.00	5.00	2.00	5.00	2.00	2.00	1.00	1.87	5.00	1.00		
Intake (gate)													
Width (m)	2.60	1.77	1.17	2.25	1.20	1.50	1.85	1.90	1.77	4.00	0.90		
Height (m)	1.80	1.24	1.70	1.00	0.70	1.50	1.45	2.00	1.48	3.50	0.70		
No. (set)	4.00	2.00	6.00	2.00	4.00	2.00	4.00	4.00	3.67	7.00	1.00		
Protection Dike													
Length (m)	245.00	1,500.00	1,800.00	-	-	-	135.70	17.12	234.48	1,800.00	-		
Height (m)	1.60	4.00	2.00	-	-	-	5.50	5.70	5.08	12.00	-		
Protection Side-wall													
Length (m)	1,181.20	120.00	-	51.70	36.80	74.40	-	47.00	123.62	1,181.20	-		
Height (m)	1.60	4.00	-	7.00	4.65	3.50	-	9.70	5.72	20.00	-		

Table D3-2 General Information and Dimension of Canals (1/3)

Code No.	REGION 1										REGION 3	
	0101 (1)	0102 (2)	0103 (3)	0104 (4)	0105 (5)	0106 (6)	0107 (7)	0108 (8)	0109 (9)	0110 (10)	0111 (11)	0301 (12)
No.	Laog Vintar	Dingras	Madongan Area	Solsona Area	Labugaon Area	Papa Area	Sta. Lucia-Candon	Tagudin	Amburayan	San Fabian	Dumutoc	Porac-Gumain
NIS	Vintar River	Bonga River	Madongan River	Solsona River	Labugaon River	Papa River	Buaya River	Chico River	Amburayan River	Bued River	Dumuloc & Cabatuan Rivers	Porac & Gumain Rivers
Main Canal												
I.S.A. (Ha)	2,286	1,004	2,933	1,340	1,470	2,337	1,423	1,253	3,289	2,026	1,232	3,126
Discharge (m ³ /s)	3.70	1.80	7.80	2.29	2.10	2.87	4.00	5.74	7.39	6.50	2.21	11.88
Length (km)	31.31	14.46	15.39	10.02	19.67	12.81	16.00	2.50	20.42	17.65	9.79	18.51
Width (m)	1.70	4.48	2.70	2.45	1.15	1.50	6.00	6.00	4.50	1.60	1.35	5.55
Height (m)	1.70	4.60	2.75	2.30	1.30	1.70	0.72	0.60	2.50	1.20	1.00	4.65
Lateral A or D and Sub-Lateral A or D												
I.S.A. (Ha)	55.00	63.00	640.00	668.00	196.00	334.00	114.00	491.40	40.00	660.00	570.00	616.00
Discharge (m ³ /s)	0.16	0.17	1.57	1.40	0.29	0.00	1.05	2.62	0.16	1.98	1.03	1.50
Length (km)	5.66	4.76	10.67	12.72	3.60	6.77	4.36	7.40	1.47	24.85	18.34	13.75
Width (m)	0.60	0.80	1.80	1.80	1.05	0.90	1.60	2.50	0.90	1.05	1.00	3.80
Height (m)	0.70	0.95	1.50	1.60	1.00	1.00	1.77	0.59	0.80	0.90	0.85	2.45
Lateral B or E and Sub-Lateral B or E												
I.S.A. (Ha)	60.00	257.00	745.00	126.00	128.00	713.00	276.14	3.12	182.00	684.00	256.00	380.00
Discharge (m ³ /s)	0.10	0.54	2.01	0.28	0.19	1.07	0.22	5.20	0.34	2.05	0.46	1.16
Length (km)	2.22	4.50	15.46	2.49	2.80	17.32	1.50	3.10	3.14	7.26	4.44	14.71
Width (m)	0.60	1.10	2.10	1.00	0.75	1.25	0.80	0.69	0.80	1.00	0.75	3.55
Height (m)	0.60	1.30	2.20	0.80	0.90	1.51	0.35	-	0.80	0.85	0.65	2.30
Lateral C or F and Sub-Lateral C or F												
I.S.A. (Ha)	350.00	80.00	305.00	170.00	75.00	929.00	426.55	-	435.00	140.00	406.00	1,131.00
Discharge (m ³ /s)	1.61	0.13	0.79	0.36	0.11	1.30	0.41	-	0.97	0.42	0.74	0.87
Length (km)	11.93	1.04	10.02	2.17	3.30	12.52	3.20	-	8.19	5.04	8.25	5.70
Width (m)	1.20	1.00	1.80	1.00	0.90	1.00	1.00	-	1.75	0.80	1.00	2.50
Height (m)	1.00	1.10	1.70	0.90	0.70	1.25	0.44	-	0.75	0.65	0.45	1.40

General Information and Dimension of Canals (2/3)

Code No.	REGION 4				REGION 6				REGION 10			REGION 11	
	0401 (13)	0402 (14)	0403 (15)	0601 (16)	0602 (17)	0603 (18)	0604 (19)	1001 (20)	1002 (21)	1003 (22)	1101 (23)	1102 (24)	
NIS	Sta. Cruz	Dumacaa	Malatgao	Suague	Aganan	Sta. Barbara	Pangiplan	Manupali	Pulangui	Muleta	Mal	Padada	
Name of Water Source	Sta. Cruz (Lapad) River	Ibia & Dumacaa Rivers	Malatgao, Manaili, Tigman, Estrella Rivers	Suague River	Aganan River	Tigum River	Pangiplan River	Manupali River	Pulangui River	Muleta River	Mal River	Padada River	
Main Canal													
I.S.A. (Ha)	2,185	1,839	3,014	2,454	4,467	3,062	1,169	1,800	10,557	1,800	2,635	2,520	
Discharge (m ³ /s)	3.86	5.50	7.58	4.52	8.25	7.77	3.69	10.73	29.00	6.50	5.65	4.50	
Length (km)	9.00	3.70	33.93	10.27	11.85	4.93	4.50	26.79	64.27	52.13	18.54	12.68	
Width (m)	3.30	2.00	2.20	3.50	3.25	N/A	3.10	2.40	10.45	2.95	0.95	3.20	
Height (m)	3.40	N/A	1.40	2.50	3.50	N/A	2.05	1.70	9.29	1.95	1.50	1.85	
Lateral A or D and Sub-Lateral A or D													
I.S.A. (Ha)	869.00	1,174.00	924.00	733.00	1,379.00	883.00	158.00	2,367.00	222.34	10.68	164.00	269.00	
Discharge (m ³ /s)	1.54	1.50	5.45	0.22	2.55	2.94	0.36	3.46	0.91	0.03	0.42	0.30	
Length (km)	25.55	99.83	25.74	7.65	18.31	24.03	2.53	29.45	6.14	1.28	3.90	5.52	
Width (m)	2.05	1.50	2.15	3.50	N.D.	2.50	0.65	0.85	3.65	0.70	0.55	1.30	
Height (m)	1.30	N/A	1.15	1.30	N.D.	1.50	1.00	0.90	3.65	0.55	0.70	0.90	
Lateral B or E and Sub-Lateral B or E													
I.S.A. (Ha)	221.00	461.00	621.00	1,046.38	2,488.00	439.00	111.00	178.00	470.91	16.20	52.00	1,917.00	
Discharge (m ³ /s)	0.39	1.50	0.37	0.44	4.60	0.70	0.17	0.26	1.49	0.10	0.11	4.20	
Length (km)	5.25	17.45	10.75	27.28	21.13	4.10	1.80	1.50	11.09	0.95	0.77	5.48	
Width (m)	1.00	1.50	0.80	3.50	2.25	1.75	0.85	0.50	5.55	0.45	0.50	3.00	
Height (m)	0.80	150.00	0.55	1.30	1.75	0.75	1.00	0.50	4.10	0.40	0.60	1.30	
Lateral C or F and Sub-Lateral C or F													
I.S.A. (Ha)	182.00	-	167.00	-	147.00	275.00	170.00	1.00	2,453.95	67.70	61.00	-	
Discharge (m ³ /s)	0.32	-	0.43	-	0.27	N/A	0.26	2.28	7.90	0.17	0.10	-	
Length (km)	10.17	-	4.00	-	1.17	18.04	2.00	5.67	49.22	2.90	0.64	-	
Width (m)	1.45	-	0.80	-	N.D.	N/A	0.80	0.55	5.50	0.60	0.50	-	
Height (m)	0.85	-	0.70	-	N.D.	N/A	1.00	0.75	4.30	0.65	0.50	-	

Table D3-2

General Information and Dimension of Canals (3/3)

Code No.	REGION 12										REGION 13			MEAN	MAX.	MIN.	
	1201	1202	1203	1204	1205	1206	1301	1302	(32)	Simulao	Cabadbaran - Taguibo	Simulao River					
	(25)	(26)	(27)	(28)	(29)	(30)	(31)										
NIS	Lambayong	Tacurong (Dumaguil)	Banga	Marbel - 1	Marbel - 2	Siluy-Buayan	Cabadbaran - Taguibo	Simulao									
Name of Water Source	Lambayaong River	Banga-Kapingkong River	Banga River	Palian & Kipalbig Rivers	Marbel River & Taplan River	Klinan, Siluay, Buayan, & Tinagacan Rivers	Cabadbaran & Taguibo Rivers	Simulao River									
Main Canal																	
I.S.A. (Ha)	11,355	1,761	2,546	1,856	1,641	1,420	2,500	2,540	2,406	11,415	1,004						
Discharge (m ³ /s)	16.96	3.60	6.72	5.44	5.40	0.26	6.97	6.16	5.99	29.00	0.26						
Length (km)	12.09	11.76	17.27	19.65	10.40	20.93	21.75	17.96	14.85	64.27	1.10						
Width (m)	10.20	3.50	1.15	0.90	1.50	1.20	2.30	3.50	2.83	10.45	0.90						
Height (m)	1.30	1.20	1.40	2.22	2.20	2.50	1.70	2.20	2.14	9.29	0.60						
Lateral A or D and Sub-Lateral A or D																	
I.S.A. (Ha)	833.00	989.00	54.00	90.00	320.00	53.00	447.00	760.00	440.90	2,367.00	10.68						
Discharge (m ³ /s)	5.63	1.96	0.20	0.20	0.91	0.08	N/D	1.33	1.43	12.12	0.00						
Length (km)	15.97	18.65	2.80	1.94	8.33	1.55	12.52	14.43	10.66	99.83	0.50						
Width (m)	1.85	1.05	0.80	0.70	1.50	0.50	1.75	1.40	1.37	3.80	0.50						
Height (m)	1.00	0.85	0.80	0.90	2.61	0.90	1.00	1.20	1.13	3.65	0.55						
Lateral B or E and Sub-Lateral B or E																	
I.S.A. (Ha)	218.00	145.00	76.00	160.00	85.00	59.00	218.00	161.00	354.95	2,488.00	3.12						
Discharge (m ³ /s)	0.33	0.22	0.50	0.40	0.20	0.09	0.44	0.31	0.89	5.20	0.09						
Length (km)	2.50	1.93	5.67	2.00	3.48	1.90	4.60	1.52	6.13	27.28	0.77						
Width (m)	1.10	0.55	1.05	1.50	0.80	0.80	1.40	0.90	1.34	5.55	0.45						
Height (m)	0.80	0.55	0.90	1.20	1.70	0.90	1.75	0.80	4.81	150.00	0.35						
Lateral C or F and Sub-Lateral C or F																	
I.S.A. (Ha)	297.00	366.00	57.00	61.00	336.00	6.00	160.00	222.00	386.38	2,453.95	1.00						
Discharge (m ³ /s)	0.42	3.33	0.20	0.20	1.08	0.01	0.34	0.48	1.10	7.90	0.01						
Length (km)	3.18	8.95	2.66	2.00	6.77	1.44	1.96	2.88	7.20	49.22	0.64						
Width (m)	1.10	2.35	1.15	0.90	1.15	0.60	0.95	0.80	1.29	5.50	0.50						
Height (m)	0.70	1.20	0.80	1.26	1.10	0.70	1.60	0.75	1.05	4.30	0.44						

Table D3-3 Present Conditions of Functionality of Diversion Dam (1/3)

Code No.	REGION I											REGION 3	
	0101 (1)	0102 (2)	0103 (3)	0104 (4)	0105 (5)	0106 (6)	0107 (7)	0108 (8)	0109 (9)	0110 (10)	0111 (11)	Porac	Gumain
No.	Laoag Vintar	Dingras	Madongan Area	Solsona Area	Labugaon Area	Papa Area	Sta. Lucia- Candon	Tagudin	Amburayan	San Fabian	Dumuloc		
NIS													
Weir													
Damaged	50	-	65	-	-	-	-	-	-	-	-	30	50
Spill. Pier													
Damaged	-	-	-	-	-	-	-	-	-	-	-	-	-
Spill.: Gate & Operating Device													
Rust	-	-	-	-	-	-	-	-	-	-	-	-	-
Damaged	-	-	-	-	-	-	-	-	-	-	-	-	-
Leak	-	-	-	-	-	-	-	-	-	-	-	-	-
D/S Apron													
Damaged	78		65	80	58	73	50	-		20	30	20	50
Scoured	80		80	80	80	80	50	-		20	80	10	10
Riverbed Protection													
Damaged	50		27	0	0	27	33	-		50	80	10	50
Scoured	50		80	0	80	0	0	-		50	80	10	10
Sluice Way													
Damaged	50		70	80	70	-	0	50		0	0	30	50
Leak	50		80	80	80	-	0	50		40	40	50	50
Sediment	50		50	80	80	-	0	50		30	30	50	80
Sluice Pier													
Damaged	50		60	17	17	-	0	33		0	0	0	30
Sluice: Gate & Operat. Device													
Rust	50		50	50	50	-	0	50		30	50	30	70
Damaged	50		50	0	50	-	0	50		0	50	20	80
Leak	50		80	80	80	-	0	50		40	40	30	50
Protection Dike													
Damaged	50		-	25	0	25	0	-		0	-	0	-
Scoured	50		-	0	0	50	0	-		30	-	20	20
Leak	50		-	0	0	0	0	-		30	-	0	-
Protection Side-wall													
Washed	50		80	0	0	0	0	-		0	-	10	0
Scoured	50		80	50	0	50	0	-		0	-	10	50
Damaged	50		80	25	0	50	0	-		0	-	10	50
Intake													
Damaged	50		33	17	17	-	0	0		0	0	10	10
Leak	50		50	50	50	-	0	0		0	30	10	10
Sediment	0		80	50	80	-	0	50		50	40	40	80
Intake: Gate & Operat. Device													
Rust	50		0	50	50	-	0	50		40	40	30	30
Damaged	50		50	0	0	-	0	50		0	0	20	20
Leak	50		50	50	50	-	50	50		0	40	20	20

Table D3-3

Present Conditions of Functionality of Diversion Dam (2/3)

Code No. No.	REGION 4			REGION 6				REGION 10			REGION 11	
	0401 (13)	0402 (14)	0403 (15)	0601 (16)	0602 (17)	0603 (18)	0604 (19)	1001 (20)	1002 (21)	1003 (22)	1101 (23)	1102 (24)
NIS	Sta. Cruz	Dumacaa	Malatgao	Suague	Aganan	Sta. Barbara	Pangiplan	Manupali	Pulangui	Mulieta	Mal	Padada
Weir												
Damaged	65	50	13	25	0	13	45	-	-	13	13	17
Spill. Pier												
Damaged	-	-	-	-	-	-	-	-	-	-	-	-
Spill.: Gate & Operating Device												
Rust	-	-	-	-	-	-	-	-	-	-	-	-
Damaged	-	-	-	-	-	-	-	-	-	-	-	-
Leak	-	-	-	-	-	-	-	-	-	-	-	-
D/S Apron												
Damaged	73	50	13	50	13	50	58	0	0	13	50	0
Scoured	80	50	0	80	0	80	80	0	0	0	0	0
Riverbed Protection												
Damaged	70	17	17	33	50	80	60	0	33	0	17	0
Scoured	80	50	50	50	50	80	50	0	50	0	50	0
Sluice Way												
Damaged	71	50	17	17	17	17	17	-	0	0	60	-
Leak	50	80	0	50	0	50	50	-	0	0	80	-
Sediment	0	80	50	0	80	0	50	-	0	0	50	-
Sluice Pier												
Damaged	0	33	17	17	33	0	17	-	0	0	33	-
Sluice: Gate & Operat. Device												
Rust	50	80	50	50	50	0	50	-	0	0	50	-
Damaged	50	50	0	0	50	0	50	-	0	0	50	-
Leak	50	80	50	50	50	50	50	-	50	50	80	-
Protection Dike												
Damaged	-	25	0	-	50	50	50	0	0	-	0	-
Scoured	-	50	50	-	0	50	0	0	0	-	0	-
Leak	-	50	0	-	50	50	50	0	0	-	0	-
Protection Side-wall												
Washed	80	50	0	-	-	-	-	-	-	-	-	-
Scoured	80	50	0	-	-	-	-	-	-	-	-	-
Damaged	80	50	25	-	-	-	-	-	-	-	-	-
Intake												
Damaged	0	17	17	-	-	0	50	-	0	0	0	-
Leak	0	50	0	-	-	0	50	-	0	0	0	-
Sediment	0	50	50	-	-	0	50	-	0	0	50	-
Intake: Gate & Operat. Device												
Rust	50	50	50	-	-	0	50	-	50	50	50	-
Damaged	50	0	0	-	-	0	80	-	0	0	50	-
Leak	0	50	50	-	-	80	50	-	0	0	0	-

Table D3-3

Present Conditions of Functionality of Diversion Dam (3/3)

Code No.	REGION 12						REGION 13		
	1201 (25)	1202 (26)	1203 (27)	1204 (28)	1205 (29)	1206 (30)	1301 (31)	1302 (32)	
NIS	Lambayong	Tacurong (Dumaguili)	Banga	Marbel - 1	Marbel - 2	Siluy- Buayan	Cabadbaran - Taguibo	Simulao	
Weir									
Damaged	-	0	0	13	13	30	50	0	
Spill. Pier									
Damaged	0	-	-	-	-	-	-	-	
Spill.: Gate & Operating Device									
Rust	0	-	-	-	-	-	-	-	
Damaged	0	-	-	-	-	-	-	-	
Leak	50	-	-	-	-	-	-	-	
D/S Apron									
Damaged	0	0	13	13	13	30	80	25	
Scoured	0	0	0	50	0	30	80	0	
Riverbed Protection									
Damaged	0	0	17	33	33	30	80	27	
Scoured	0	0	0	0	0	30	80	50	
Sluice Way									
Damaged	-	-	17	17	80	30	50	-	
Leak	-	-	0	0	80	30	0	-	
Sediment	-	-	50	0	0	30	50	-	
Sluice Pier									
Damaged	-	-	17	17	17	0	33	-	
Sluice: Gate & Operat. Device									
Rust	-	-	0	50	50	0	50	-	
Damaged	-	-	0	0	80	30	50	-	
Leak	-	-	0	50	80	30	50	-	
Protection Dike									
Damaged	50	50	0	-	-	30	80	50	
Scoured	50	0	0	-	-	30	80	50	
Leak	50	0	0	-	-	30	80	50	
Protection Side-wall									
Washed	50	-	0	0	0	30	-	-	
Scoured	50	-	0	0	0	30	-	-	
Damaged	50	-	0	50	50	30	-	-	
Intake									
Damaged	-	-	0	50	0	0	50	-	
Leak	-	-	0	0	0	0	50	-	
Sediment	-	-	50	80	0	0	50	-	
Intake: Gate & Operat. Device									
Rust	-	-	50	50	80	0	50	-	
Damaged	-	-	0	0	80	0	0	-	
Leak	-	-	0	50	80	0	50	-	

Table D3-4

Present Conditions of Functionality of Canals (1/3)

Code No. No.	REGION I											REGION 3		
	0101 (1)	0102 (2)	0103 (3)	0104 (4)	0105 (5)	(6)	0107 (7)	0108 (8)	0109 (9)	0110 (10)	0111 (11)	0301 (12)		
NIS	Laoag Vintar	Dingras	Madongan Area	Solsona Area	Labugaon Area	Papa Area	Sta. Lucia-Candon	Tagudin	Amburayan	San Fabian	Dumuloc	Porac-Gumain		
Firmed-up Service Area (ha)	2,286	1,004	2,933	1,340	1,470	2,337	1,423	1,253	3,289	2,026	1,232	3,126		
Area Increased with Project (ha)	184	19	2,193	909	741	1,117	0	17	403	1,217	320	1,286		
MAIN CANAL														
Damaged	70	50	60	60	50	17	33	50	50	30	50	30		
Leak	80	50	80	80	50	50	50	50	50	30	60	70		
Sediment	80	50	50	80	80	50	50	0	50	50	40	65		
Related S.	80	50	50	80	80	50	50	50	80	60	100	65		
LATERAL-A & SUB-LATERAL A														
Damaged	70	50	70	43	43	70	50	50	0	0	50	20		
Leak	80	50	80	80	80	80	50	50	0	50	50	12		
Sediment	80	50	80	80	50	0	50	50	50	50	40	65		
Related S.	80	50	50	80	50	50	50	50	50	60	40	65		
LATERAL-A & SUB-LATERAL B														
Damaged	60	50	70	0	60	70	50	50	50	3	50	20		
Leak	50	50	80	0	80	80	50	50	50	40	80	40		
Sediment	80	50	80	0	80	50	50	50	50	70	40	50		
Related S.	80	50	80	0	50	50	50	50	50	60	40	50		
LATERAL-A & SUB-LATERAL C														
Damaged	53	50	70	0	50	70	50	50	50	0	40	10		
Leak	80	50	80	0	50	80	50	50	50	30	40	30		
Sediment	80	50	50	0	50	80	50	50	50	30	30	50		
Related S.	80	50	50	0	50	50	50	50	80	70	40	50		
LATERAL-A & SUB-LATERAL D														
Damaged	80	50	80	0	43	0	50	0	33	0	0	0		
Leak	80	50	80	0	80	0	50	0	0	0	0	0		
Sediment	80	50	80	0	80	0	50	0	50	0	0	0		
Related S.	80	50	80	0	50	0	50	0	50	0	0	0		
LATERAL-A & SUB-LATERAL E														
Damaged	70	0	80	0	33	0	0	0	50	0	0	0		
Leak	80	0	80	0	50	0	0	0	50	0	0	0		
Sediment	80	0	80	0	80	0	0	0	80	0	0	0		
Related S.	80	0	80	0	80	0	0	0	80	0	0	0		

Table D3-4

Present Conditions of Functionality of Canals (2/3)

Code No. No.	REGION 4			REGION 6				REGION 10			REGION 11	
	0401 (13)	0402 (14)	0403 (15)	0601 (16)	0602 (17)	0603 (18)	0604 (19)	1001 (20)	1002 (21)	1003 (22)	1101 (23)	1102 (24)
NIS	Sta. Cruz	Dumacao	Malatgao	Suague	Aganan	Sta. Barbara	Pangiplan	Manupali	Pulangui	Muleta	Mal	Padada
Firmed-up Service Area (ha)	2,185	1,839	3,014	2,454	4,467	3,062	1,169	1,800	11,415	1,800	2,635	2,842
Area Increased with Project (ha)	277	445	725	17	6	403	157	263	519	431	135	28
MAIN CANAL												
Damaged	50	60	60	43	33	60	60	17	70	17	60	0
Leak	50	80	50	0	50	50	50	0	70	0	50	0
Sediment	50	80	50	80	80	80	80	80	70	80	50	0
Related S.	50	50	80	80	80	80	80	50	70	27	80	0
LATERAL-A & SUB-LATERAL A												
Damaged	50	60	80	50	50	60	50	0	34	0	70	0
Leak	50	50	50	50	50	50	50	0	0	0	80	0
Sediment	50	50	80	80	80	80	50	50	75	50	50	0
Related S.	50	60	80	50	80	80	50	50	50	0	80	0
LATERAL-A & SUB-LATERAL B												
Damaged	50	70	50	33	50	60	50	0	51	0	60	0
Leak	50	50	50	50	50	50	80	0	0	0	80	0
Sediment	50	50	50	80	80	80	80	50	50	0	50	0
Related S.	0	50	50	80	80	80	80	50	75	0	50	0
LATERAL-A & SUB-LATERAL C												
Damaged	50	0	50	0	33	50	50	0	17	0	60	0
Leak	50	0	50	0	0	50	80	0	0	0	80	0
Sediment	50	0	50	0	0	80	80	50	75	50	50	0
Related S.	0	0	80	0	50	80	80	50	85	50	50	0
LATERAL-A & SUB-LATERAL D												
Damaged	50	0	50	0	50	0	50	0	17	17	70	0
Leak	50	0	50	0	50	0	80	0	0	0	80	0
Sediment	50	0	80	0	80	0	80	50	50	50	50	0
Related S.	0	0	80	0	80	0	80	50	75	50	50	0
LATERAL-A & SUB-LATERAL E												
Damaged	50	0	0	0	0	0	50	0	17	0	60	0
Leak	50	0	0	0	0	0	50	0	0	0	50	0
Sediment	50	0	0	0	0	0	80	0	50	50	50	0
Related S.	0	0	0	0	0	0	80	0	75	50	50	0
LATERAL-A & SUB-LATERAL E												
Damaged	50	0	0	0	0	0	50	0	17	0	60	0
Leak	50	0	0	0	0	0	50	0	0	0	50	0
Sediment	50	0	0	0	0	0	80	0	50	50	50	0
Related S.	0	0	0	0	0	0	80	0	50	50	80	0

Table D3-4

Present Conditions of Functionality of Canals (3/3)

Code No. No.	REGION 12						REGION 13		
	1201 (25)	1202 (26)	1203 (27)	1204 (28)	1205 (29)	1206 (30)	1301 (31)	1302 (32)	
NIS	Lambayong	Tacurong (Dumaguil)	Banga	Marbel - 1	Marbel - 2	Siliuy- Buayan	Cabadbaran - Taguibo	Simulao	
Firmed-up Service Area (ha)	11,355	1,900	2,546	1,856	1,641	1,420	2,500	2,540	
Area Increased with Project (ha)	3,740	1,761	41	44	11	67	213	251	
MAIN CANAL									
Damaged	50	33	80	50	53	0	60	17	
Leak	50	50	80	0	80	0	0	50	
Sediment	80	80	50	50	80	50	80	50	
Related S.	80	80	50	50	80	50	80	80	
LATERAL-A & SUB-LATERAL A									
Damaged	17	0	17	0	60	0	17	80	
Leak	0	0	0	0	50	0	50	80	
Sediment	80	80	50	0	50	0	50	0	
Related S.	80	80	60	0	80	50	50	80	
LATERAL-A & SUB-LATERAL B									
Damaged	17	0	0	0	80	33	50	27	
Leak	0	0	0	0	80	50	50	50	
Sediment	50	50	50	0	50	50	50	50	
Related S.	50	50	50	0	80	50	80	50	
LATERAL-A & SUB-LATERAL C									
Damaged	17	17	0	80	80	33	50	17	
Leak	50	50	0	80	80	0	0	0	
Sediment	50	80	50	80	80	50	50	50	
Related S.	50	80	50	80	80	50	50	17	
LATERAL-A & SUB-LATERAL D									
Damaged	50	0	50	70	80	33	50	17	
Leak	50	0	50	80	80	0	0	0	
Sediment	80	0	50	80	80	50	80	50	
Related S.	80	0	50	80	80	50	80	0	
LATERAL-A & SUB-LATERAL E									
Damaged	33	0	17	80	0	0	0	17	
Leak	50	0	50	80	0	0	0	0	
Sediment	50	0	0	80	0	0	0	50	
Related S.	50	0	50	80	0	0	0	17	

Table D3-5 Inventory Data for Proposed Sub-project (1/3)

Code No.	REGION I										REGION 3		
	0101 (1)	0102 (2)	0103 (3)	0104 (4)	0105 (5)	0106 (6)	0107 (7)	0108 (8)	0109 (9)	0110 (10)	0111 (11)	0301 (12)	
No.	Laoag Vintar	Dingras	Madongan Area	Solsona Area	Labugaon Area	Papa Area	Sta. Lucia-Candon	Tagudin	Amburayan	San Fabian	Dumulloc	Porac-Gumain	
Firmed-up Service Area (ha)	2,286	1,004	2,933	1,340	1,470	2,337	1,423	1,253	3,289	2,026	1,232	3,126	
A. Main Irrigation Canal													
1) Length (m)	31,310	14,460	15,390	10,021	19,671	12,813	16,000	2,500	20,420	17,646	9,790	18,505	
2) Lining (m)	517	1,330	10,756	6,758	17,895	7,236	9,600	0	3,390	0	335	7,850	
3) % of Lining	1.65	9.20	69.89	67.44	90.97	56.47	60.00	0.00	16.60	0.00	3.42	42.42	
4) For rehab (m)	30,793	13,130	4,634	3,443	1,776	5,577	4,923	1,243	17,030	3,201	9,455	10,630	
B. Lateral Irrigation Canal													
1) Length (m)	41,680	13,675	54,749	13,244	11,579	35,649	22,000	15,870	63,054	37,693	31,031	31,640	
2) Lining (m)	0	0	41,143	4,392	3,300	12,378	2,000	2,870	18,760	15,258	6,210	1,623	
3) % of Lining	0.00	0.00	75.15	33.16	28.50	34.72	9.09	18.08	29.75	40.48	20.01	5.13	
4) For rehab. (m)	41,680	13,675	13,606	8,852	8,279	23,271	31,000	5,577	26,480	22,435	24,821	14,970	
C. Canal Structure													
1) No.	242	73	309	91	162	230	61	47	237	157	116	170	
2) For rehab.	93	45	65	29	37	158	30	30	76	25	50	0	
D. Drainage Canal													
1a) Canal (m)	23,020	13,000	38,000	17,420	30,000	18,000	1,500	1,000	42,000	26,000	16,000	40,000	
1b) For rehab. (m)	12,750	2,000	1,140	3,600	3,000	6,940	1,000	1,000	15,000	19,700	8,500	2,000	
2a) Structure (no.)	30	29	40	20	51	37	1	1	32	27	16	41	
2b) For rehab.	15	14	19	9	26	15	1	1	12	13	8	20	
E. On-Farm Facility													
1) Turn-outs													
a) No.	152	66	195	89	93	155	145	47	168	80	62	104	
b) For rehab.	91	40	117	53	56	93	56	35	65	48	37	62	
2) Farm Ditches													
a) Length (m)	76,000	36,000	97,000	44,000	49,000	77,000	15,000	12,000	108,000	67,000	41,000	104,000	
b) For rehab.							15,000	12,000				10,950	
F. Service Road													
1) Length	48,505	10,812	47,823	15,991	17,380	36,140	15,870	15,870	61,814	47,194	7,955	27,940	
2) For rehab.	31,000	8,200	24,000	9,600	6,190	21,000	15,870	12,000	6,000	47,194	7,955	27,440	

Table D3-5

Inventory Data for Proposed Sub-project (2/3)

Code No.	REGION 4				REGION 6				REGION 10				REGION 11	
	0401 (13)	0402 (14)	0403 (15)	0601 (16)	0602 (17)	0603 (18)	0604 (19)	1001 (20)	1002 (21)	1003 (22)	1101 (23)	1102 (24)		
N/S	Sta. Cruz	Dumacaa	Malatgao	Suague	Aganan	Sta. Barbara	Panglipan	Manupali	Pulangui	Muleta	Mal	Padada		
Firmed-up Service Area (ha)	2,185	1,839	3,014	2,454	4,467	3,062	1,169	1,800	10,557	1,800	2,635	2,520		
A. Main Irrigation Canal														
1) Length (m)	9,000	3,702	33,932	10,273	11,850	4,930	4,502	26,792	64,274	52,130	18,540	12,680		
2) Lining (m)	350	551	7,716	100	11,200	0	0	26,792	39,248	52,130	18,540	1,860		
3) % of Lining	3.89	14.88	22.74	0.97	94.51	0.00	0.00	100.00	61.06	100.00	100.00	14.67		
4) For rehab (m)	8,650	3,151	9,250	3,300	3,200	3,500	4,502	3,000	25,026	500	3,164	10,820		
B. Lateral Irrigation Canal														
1) Length (m)	68,000	79,193	46,280	35,503	45,270	46,165	23,729	55,980	160,000	38,490	30,600	41,490		
2) Lining (m)	9,500	26,040	5,248	1,500	1,400	2,815	8,000	55,980	4,000	38,490	25,500	8,310		
3) % of Lining	13.97	32.88	11.34	4.22	3.09	6.10	33.71	100.00	2.50	100.00	83.33	20.03		
4) For rehab. (m)	2,893	53,150	9,992	19,000	23,440	43,350	4,486	6,000	132,128	1,200	7,660	33,180		
C. Canal Structure														
1) No.	234	174	225	73	181	236	99	135	1,375	124	163	149		
2) For rehab.	24	44	17	5	121	110	33	12	380	25	91	20		
D. Drainage Canal														
1a) Canal (m)	28,000	24,000	39,000	29,320	42,430	28,000	17,600	23,000	164,461	15,000	26,950	36,600		
1b) For rehab. (m)	3,080	10,000	15,000	10,000	25,000	19,200	13,800	20,000	97,000	15,000	12,200	14,200		
2a) Structure (no.)	29	24	41	32	59	40	52	30	119	50	35	46		
2b) For rehab.	14	12	20	16	29	20	7	18	35	25	17	12		
E. On-Farm Facility														
1) Turn-outs														
a) No.	70	63	100	91	201	118	105	90	351	60	101	133		
b) For rehab.	40	40	60	74	148	91	51	54	211	36	51	70		
2) Farm Ditches														
a) Length (m)	72,000	62,000	100,000	81,000	108,000	102,000	38,000	60,000	320,000	60,000	87,000	98,000		
b) For rehab.	1,000	0	0	76,000	74,700	52,000	18,000	56,300	316,000	60,000	18,700	50,000		
F. Service Road														
1) Length	62,000	62,702	80,212	25,120	24,370	44,890	28,000	82,700	207,104	91,520	49,140	53,830		
2) For rehab.	20,431	26,000	16,873	20,000	30,600	30,800	15,000	71,000	126,460	91,520	31,400	37,680		

Table D3-5

Inventory Data for Proposed Sub-project (3/3)

Code No.	REGION 12						REGION 13			TOTAL	DENSITY (Unit/Ha)
	1201 (25)	1202 (26)	1203 (27)	1204 (28)	1205 (29)	1206 (30)	1301 (31)	1302 (32)			
NIS	Lambayong	Tacurong (Dumaguili)	Banga	Marbel - 1	Marbel - 2	Siluyay- Buayan	Cabadbaran - Taguibo	Simulac			
Firmed-up Service Area (ha)	11,355	1,761	2,546	1,856	1,641	1,420	2,500	2,540	86,840.00		
A. Main Irrigation Canal											
1) Length (m)	12,090	11,758	17,270	19,650	10,400	20,928	21,749	17,961	572,937	6.60	
2) Lining (m)	12,090	11,758	2,000	19,650	2,380	12,486	21,749	0	306,267	3.53	
3) % of Lining	100.00	100.00	11.58	100.00	22.88	59.66	100.00	0.00	53.46		
4) For rehab (m)	3,700	1,687	2,000	5,000	8,020	8,442	13,000	17,961	243,708	2.81	
B. Lateral Irrigation Canal											
1) Length (m)	140,000	31,730	44,410	24,900	22,880	75,000	48,360	35,060	1,484,904	16.87	
2) Lining (m)	134,000	31,730	25,000	16,300	3,280	15,726	41,250	1,176	563,179	6.49	
3) % of Lining	95.71	100.00	56.29	65.46	14.34	20.97	85.30	3.35	1,146.69		
4) For rehab. (m)	6,000	80	35,000	8,600	19,600	59,274	40,000	33,880	773,559	8.91	
C. Canal Structure											
1) No.	560	70	204	172	90	107	249	158	6,673	0.08	
2) For rehab.	26	30	101	60	24	30	120	43	1,954	0.02	
D. Drainage Canal											
1a) Canal (m)	129,970	22,000	33,000	20,000	19,000	12,709	15,890	58,000	1,050,870	12.10	
1b) For rehab. (m)	12,900	720	1,000	14,000	3,000	12,709	12,480	31,450	419,369	4.83	
2a) Structure (no.)	150	67	29	40	10	2	52	52	1,284	0.01	
2b) For rehab.	75	15	15	12	6	2	17	3	523	0.01	
E. On-Farm Facility											
1) Turn-outs											
a) No.	368	65	221	178	58	190	120	131	4,170	0.05	
b) For rehab.	227	31	96	102	22	85	42	82	2,366	0.03	
2) Farm Ditches											
a) Length (m)	378,000	58,000	84,000	61,000	54,000	47,000	76,920	84,000	2,757,920	31.76	
b) For rehab.	146,000	29,700	56,700	22,200	17,900	21,100	3,200	1,000	1,058,450	12.19	
F. Service Road											
1) Length	145,290	43,488	42,620	44,500	18,760	24,648	60,890	51,335	1,614,313	18.59	
2) For rehab.	65,051	13,881	38,390	30,000	15,000	3,950	35,110	51,335	986,930	11.36	

Annex D-4
Data on Equipment

Table D4-1 Standard Equipment Requirement by Size of Irrigation Systems

Type of Equipment	Capacity	Size of System (ha)				
		<2,000	2,000-5,000	5,000-10,000	10,000-20,000	>20,000
HEAVY EQUIPMENT						
1) Backhoe, Wheel Tractor	0.5-0.8/0.15-0.25 cu m	1	1	1	1	1
2) Excavator - Crawler	Mdl 110 or equivalent	NIL	P	P	1	2
3) Crane - Crawler	16-20 ton	NIL	NIL	NIL	P	1
4) Front End Loader, Wheel	1.15-1.40 cum, Articulated	NIL	NIL	P	P	1
5) Tractor (Dozer)	55-84 HP	NIL	P	P	P	1
6) Motorgrader	60-100 HP	P	P	NIL	NIL	NIL
7) Motorgrader	115-120 HP	NIL	NIL	1	1	1
8) Dump Truck	4.5-6.5 cu m	P	1	1	2	3
9) Vibratory Roller	2.5 ton	P	P	P	P	1
LIGHT EQUIPMENT						
1) Pickup Truck	0.75 ton	1	3	3	6	12
2) Cargo Truck	3-5 T, 4 x 2	NIL	NIL	NIL	1	2
MISCELLANEOUS EQUIPMENT						
1) Concrete Mixer	0.16 cu m	1	1	1	1	1
2) Compressor	86-125 CFM	P	P	P	P	1
3) Welding Machine	200 amp	1	1	1	1	1
4) Pump	100 mm (4")	1	1	1	1	1
VEHICLE						
1) Jeep	4 wheel drive	1	1	1	2	3
2) Motorcycles	100 cc	6	8	11-15	17-35	50

Table D4-2 Summary of Existing Equipment Hold by NISs

Type of Equipment	Nos of Equipment by Condition*			Total (nos)
	A1	A2	A3	
HEAVY EQUIPMENT				
1) Backhoe, Front-end Wheel	1	2	6	9
2) Backhoe, Excavator, Crawler	1	12	8	21
3) Backhoe, Excavator, Crawler, Swampy, Long	4	1	3	8
4) Crane, Crawler	0	1	0	1
5) Prime Mover, Low Bed Type	2	2	1	5
6) Front End Loader, Wheel Type	6	7	2	15
7) Tractor Dozer	4	8	6	18
8) Motor Grader	4	6	1	11
9) Dump Truck	17	36	11	64
10) Compactor, Vibratory	5	3	1	9
Sub-Total	44	78	39	161
	27.3%	48.4%	24.2%	
LIGHT EQUIPMENT				
1) Pickup, Double Cab, 4 x 4	24	18	4	46
2) Pickup, Single Cab, 4 x 4	2	2	1	5
3) Cargo Truck	5	8	2	15
4) Concrete Mixer, 1-Bagger	1	0	0	1
5) Air Compressor	10	4	4	18
6) Welding Machine (cutting & welding)	15	6	2	23
7) Water Pump (4" Diameter)	0	6	2	8
8) Motorcycle	79	156	45	280
Sub-Total	136	200	60	396
	34.3%	50.5%	15.2%	
HYDRO-METEROROLOGICAL EQUIPMENT & INSTRUMENT				
1) Large Current Meter (Torpedo Type)	0	0	0	0
2) Digital Current Meter (Propeller Type)	8	2	0	10
3) Raingage	33	1	0	34
4) Evaporation Pan	0	0	0	0
5) Global Positioning System (Mapping Capability)	0	1	0	1
6) Geodetic Survey Instrument (Total Station)	0	0	0	0
7) Desktop Computer System (2GHZ, Core-2-Duo)	117	32	0	149
8) LCD Projector (15m)	1	0	0	1
Sub-Total	159	36	0	195
	81.5%	18.5%	0.0%	

Remarks:

A1 = Good running condition

A2 = Minor repair from a period of one day to 30 days depending on the availability of funds and spare parts

A3 = Major repair or non-repairable

Table D4-3

Existing O&M Heavy Equipment (1/3)

Code No.	REGION I											REGION 3								
	0101	0102	0103	0104	0105	0106	0107	0108	0109	0110	0111	REGION 3								
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)								
IMO	ILOCOS NORTE											ILOCOS SUR			PANGASINAN			PAMPANGA-BATAAN		
NIS	Laoag Vintar	Dingras	Madongan Area	Solsona Area	Labugaon Area	Papa Area	Sta. Lucia-Candon	Tagudin	Amburayan	San Fabian	Dumuloc	Porac-Gumain								
												3,258			3,126					
												2,676			3,126					
Firmed-up Service Area (ha)	2,286	1,004	2,933	1,340	1,470	2,337	1,423	1,253	3,289	2,026	1,232									
1) Backhoe, Front-end Wheel	-	-	1-A2	1-A2	1-A3	1-A2	-	-	-	-	-									
2) Backhoe, Excavator, Crawler	-	1-A3	1-A3/2-A2	2-A2	2-A3	1-A3/2-A2	-	-	-	-	1-A2									
3) Backhoe, Excavator, Crawler, Swampy, Long	-	1-A3	-	1-A2	1-A3	-	-	-	-	-	-									
4) Crane, Crawler	-	-	-	-	-	-	-	-	-	-	-									
5) Prime Mover, Low Bed Type	-	1-A2	1-A1	1-A2	-	1-A1	-	-	-	-	-									
6) Front End Loader, Wheel Type	-	1-A3	-	-	1-A3	-	-	-	-	-	-									
7) Tractor Dozer	-	-	1-A3/2-A2	1-A2	1-A2	1-A3	-	-	-	-	-									
8) Motor Grader	-	1-A2	1-A1	1-A2	-	1-A1	-	-	-	-	-									
9) Dump Truck	-	2-A2	1-A1/2-A3	4-A2	2-A3	1-A1/2-A3	-	-	-	-	-				1-A1					
10) Compactor, Vibratory	-	-	-	-	-	-	-	-	-	-	-				1-A2					
TOTAL																				
PERCENT																				
OVERALL																				

Table D4-3

Existing O&M Heavy Equipment (2/3)

Code No.	REGION 4				REGION 6				REGION 10			REGION 11	
	0401 (13)	0402 (14)	0403 (15)	0601 (16)	0602 (17)	0603 (18)	0604 (19)	1001 (20)	1002 (21)	1003 (22)	1101 (23)	1102 (24)	
IMO	LAGUNA- RIZAL	QUEZON- MARINDOC UE	PALAWAN			ILOILO-GUIMARAS			BUKIDNON		DAVAO DEL SUR		
NIS	Sta. Cruz	Dumacaa	Malatgao	Suague	Aganan	Sta. Barbara	Pangiplan	Manupali	Pulangui	Muleta	Mal	Patada	
	2,185	1,839	3,014			11,152			14,157		5,155		
Firmed-up Service Area (ha)	2,185	1,839	3,014	2,454	4,467	3,062	1,169	1,800	10,557	1,800	2,635	2,520	
1) Backhoe, Front-end Wheel	-	-	1-A1	-	-	-	-	-	-	-	-	-	
2) Backhoe, Excavator, Crawler	1-A2	-	2-A3	2-A2	1-A2	1-A2	-	-	1-A1	1-A2	-	-	
3) Backhoe, Excavator, Crawler, Swampy, Long	-	-	-	-	2-A1	2-A1	-	-	-	-	-	-	
4) Crane, Crawler	-	-	-	1-A2	-	-	-	-	-	-	-	-	
5) Prime Mover, Low Bed Type	-	-	1-A3	-	-	-	-	-	-	-	-	-	
6) Front End Loader, Wheel Type	-	-	-	1-A2	1-A1	1-A1	-	1-A2	1-A1	-	-	1-A2	
7) Tractor Dozer	-	-	1-A2	1-A2	1-A1	1-A1	-	-	1-A1	-	1-A1	-	
8) Motor Grader	1-A2	-	1-A2	-	-	-	-	1-A2	-	1-A1	-	-	
9) Dump Truck	1-A2	-	2-A3	1-R	3-A2	3-A2	-	1-A2	1-A1	1-A2	2-A1/1-A2	2-A2	
10) Compactor, Vibratory	1-A2	-	1-A3	-	-	-	-	-	1-A2	-	-	-	
TOTAL													
PERCENT													
OVERALL													

Table D4-3

Existing O&M Heavy Equipment (3/3)

Code No.	REGION 12						REGION 13			EQUIPMENT CONDITION	
	1201 (25)	1202 (26)	1203 (27)	1204 (28)	1205 (29)	1206 (30)	1301 (31)	1302 (32)			
IMO	SULTAN KUDARAT		SOUTH COTABATO-SARANGANI						AGUSAN DEL NORTE- SURIGAO DEL SUR	A1-Good Running Condition	
NIS	Lambayong	Tacurong (Dumaguil)	Banga	Marbel - 1	Marbel - 2	Siluy- Buayan	Cabadbaran - Taguibo			A2- Minor Repair	
	13,116		7,463						2,500	2,540	A3- Major Repair/Not Economical
Firmed-up Service Area (ha)	11,355	1,761	2,546	1,856	1,641	1,420	2,500	2,540	A1	A2	A3
1) Backhoe, Front-end Wheel	1-A2	1-A2	-	-	-	-	1-A2	-	1	2	6
2) Backhoe, Excavator, Crawler	1-A3	-	-	-	-	-	1-A3	-	1	12	8
3) Backhoe, Excavator, Crawler, Swampy, Long	-	1-A3	-	-	-	-	-	-	4	1	3
4) Crane, Crawler	-	-	-	-	-	-	-	-	0	1	0
5) Prime Mover, Low Bed Type	-	-	-	-	-	-	-	-	2	2	1
6) Front End Loader, Wheel Type	-	-	1-A2/1-A1	1-A2/1-A1	1-A1/1-A2	-	2-A2	-	6	7	2
7) Tractor Dozer	-	1-A2	-	-	-	-	4-A3	2-A2	4	8	6
8) Motor Grader	-	-	1-A	1-A1	1-A1	-	1-A3	1-A2	4	6	1
9) Dump Truck	4-A2/1-A3	4-A2/1-A3	3-A1/1-A2	3-A1/1-A2	3-A1/1-A2	2-A2	6-A2	3-A1	17	36	11
10) Compactor, Vibratory	1-A1	1-A1	-	-	-	1-A2	3-A1	-	5	3	1
TOTAL									44	78	39
PERCENT									27.33%	48.45%	24.22%
OVERALL									161		

Table D4-4 Existing O&M Light Equipment (1/3)

Code No.	REGION I												REGION 3		
	0101	0102	0103	0104	0105	0106	0107	0108	0109	0110	0111	0301			
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)			
IMO	ILOCOS NORTE						ILOCOS SUR			LA UNION		PANGASINAN		PAMPANGA-BATAAN	
NIS	Laoag Vintar	Dingras	Madongan Area	Solsona Area	Labugaon Area	Papa Area	Sta. Lucia-Candon	Tagudin	Amburayan	San Fabian	Dumulooc	Porac-Gumain			
	11,370						2,676			3,289		3,258		3,126	
Firmed-up Service Area (ha)	2,286	1,004	2,933	1,340	1,470	2,337	1,423	1,253	3,289	2,026	1,232	3,126			
1) Pickup, Double Cab, 4 x 4	-	2-A3	3-A1	2-A2		3-A1	-	-	2-A2	-	2-A2	1-A1			
2) Pickup, Single Cab, 4 x 4	-	-	-	-	-	-	-	-	-	-	-	-			
3) Cargo Truck	-	2-A2	1-A2/1-A3	-	2-A2	1-A2/1-A3	-	-	-	-	-	-			
4) Concrete Mixer, 1-Bagger	-	-	-	-	-	-	-	-	-	-	-	-			
5) Air Compressor	-	1-A3	1-A1	1-A2	1-A3	1-A1	-	-	1-A2	-	1-A2	1-A2			
6) Welding Machine (cutting & welding)	-	-	1-A1	-	-	1-A1	-	-	1-A1	-	-	2-A1			
7) Water Pump (4" Diameter)	-	-	1-A2	2-A2	1-A3/1-A2	1-A2	-	-	-	-	-	-			
8) Motorcycle	-	10-A3	15-A1	10-A3	10-A3	15-A1	-	-	2-A2	-	5-A2	3-A1			
TOTAL															
PERCENT															
OVERALL															

Table D4-4 Existing O&M Light Equipment (2/3)

Code No.	REGION 4				REGION 6				REGION 10				REGION 11	
	0401 (13)	0402 (14)	0403 (15)	0601 (16)	0602 (17)	0603 (18)	0604 (19)	1001 (20)	1002 (21)	1003 (22)	1101 (23)	1102 (24)		
IMO	LAGUNA- RIZAL	QUEZON- MARINDOC UE	PALAWAN	ILOILO-GUIMARAS				BUKIDNON				DAVAO DEL SUR		
NIS	Sta. Cruz	Dumacao	Malatgao	Suague	Aganan	Sta. Barbara	Pangiplan	Manupali	Pulangui	Muleta	Mal	Padada		
	2,185	1,839	3,014	11,152				14,157				5,155		
Firmed-up Service Area (ha)	2,185	1,839	3,014	2,454	4,467	3,062	1,169	1,800	10,557	1,800	2,635	2,520		
1) Pickup, Double Cab, 4 x 4	1-A1	1-A1	2-A2	4-A1	2-A1	2-A1	-	1-A1	2-A1	-	2-A1	1-A2/1-A2		
2) Pickup, Single Cab, 4 x 4	1-A1	-	-	-	-	-	-	-	1-A2	1-A1	-	-		
3) Cargo Truck	-	-	-	-	-	-	-	1-A1	4-A1/A2	-	-	-		
4) Concrete Mixer, 1-Bagger	-	-	-	-	-	-	-	-	-	-	-	-		
5) Air Compressor	1-A3	-	-	1-A1	1-A1	1-A1	-	-	-	1-A2	1-A1	1-A1		
6) Welding Machine (cutting & welding)	-	-	-	2-A1	1-A1/1-A2	1-A1/1-A2	-	-	1-A1	1-A1	2-A1/4-A2	-		
7) Water Pump (4" Diameter)	1-A3	-	-	-	-	-	-	-	-	-	-	-		
8) Motorcycle	13-A2/2-A3	2-A1	3-A1	19-A2	14-A2	14-A2	4-A3	4-A1	6-A1	4-A1	2-A1/4-A2	5-A1/1-A3		
TOTAL														
PERCENT														
OVERALL														

Table D4-4 Existing O&M Light Equipment (3/3)

Code No.	REGION 12						REGION 13		EQUIPMENT CONDITION
	1201 (25)	1202 (26)	1203 (27)	1204 (28)	1205 (29)	1206 (30)	1301 (31)	1302 (32)	
IMO	SULTAN KUDARAT			SOUTH COTABATO-SARANGANI			AGUSAN DEL NORTE-SURIGAO DEL SUR		A1-Good Running Condition
NIS	Lambayong	Tacurong (Dumaguil)	Banga	Marbel - 1	Marbel - 2	Siluy-Buayan	Cabadbaran - Taguibo	Simulao	
	13,116		7,463				2,500		A3- Major Repair/Not Economical
Firmed-up Service Area (ha)	11,355	1,761	2,546	1,856	1,641	1,420	2,500	2,540	A1 A2 A3
1) Pickup, Double Cab, 4 x 4	1-A2/2-A3	1-A2/2-A2	3-A1	3-A1	3-A1	3-A2	2-A2	2-A2	24 18 4
2) Pickup, Single Cab, 4 x 4	-	-	-	-	-	-	-	-	2 2 1
3) Cargo Truck	-	-	-	-	-	-	1-A2	-	5 8 2
4) Concrete Mixer, 1-Bagger	-	-	-	1-A1	-	-	-	-	1 0 0
5) Air Compressor	1-A3	1-A3	1-A1	1-A1	1-A1	1-A2	-	-	10 4 4
6) Welding Machine (cutting & welding)	1-A2/1-A3	1-A2/1-A3	2-A1	2-A1	2-A1	2-A2	-	-	15 6 2
7) Water Pump (4" Diameter)	-	-	-	-	-	1-A2	-	-	0 6 2
8) Motorcycle	18-A2/4-A3	18-A2/4-A3	8-A1/6-A2	8-A1/6-A2	8-A1/6-A2	3-A2	19-A2	9-A2	79 156 45
TOTAL									136 200 60
PERCENT									34.34% 50.51% 15.15%
OVERALL									396

Table D4-5 Existing Hydro-meteorological Equipment & Instruments (1/3)

Code No.	REGION I											REGION 3			
	0101	0102	0103	0104	0105	0106	0107	0108	0109	0110	0111	0301			
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)			
IMO	ILOCOS NORTE						ILOCOS SUR			LA UNION		PANGASINAN		PAMPANGA-BATAAN	
NIS	Laoag Vintar	Dingras	Madongan Area	Solsona Area	Labugaon Area	Papa Area	Sta. Lucia-Candon	Tagudin	Amburayan	San Fabian	Dumuloc	Porac-Gurmain			
	11,370						2,676		3,289		3,258		3,126		
Firmed-up Service Area (ha)	2,286	1,004	2,933	1,340	1,470	2,337	1,423	1,253	3,289	2,026	1,232	3,126			
1) Large Current Meter (Torpedo Type)	-	-	-	-	-	-	-	-	-	-	-	-			
2) Digital Current Meter (Propeller Type)	-	1-A1	-	-	-	1-A1	-	-	-	-	-	-			
3) Raingage	-	2-A1	-	-	-	2-A1	-	-	-	-	-	-			
4) Evaporation Pan	-	-	-	-	-	-	-	-	-	-	-	-			
5) Global Positioning System (Mapping Capability)	-	-	-	-	-	-	-	-	-	-	-	-			
6) Geodetic Survey Instrument (Total Station)	-	-	-	-	-	-	-	-	-	-	-	-			
7) Desktop Computer System (2GHZ, Core-2-Duo)	-	2-A1	2-A1	2-A1	2-A1	2-A1	-	-	2-A2	2-A2	-	7-A1			
8) LCD Projector (15m)	-	-	-	-	-	-	-	-	-	-	-	-			
TOTAL															
PERCENT															
OVERALL															

Table D4-5

Existing Hydro-meteorological Equipment & Instruments (2/3)

	REGION 4			REGION 6			REGION 10			REGION 11		
	0401 (13)	0402 (14)	0403 (15)	0601 (16)	0602 (17)	0603 (18)	0604 (19)	1001 (20)	1002 (21)	1003 (22)	1101 (23)	1102 (24)
IMO	LAGUNA-RIZAL	QUEZON-MARINDOQUE	PALAWAN			ILOILO-GUIMARAS			BUKIDNON		DAVAO DEL SUR	
NIS	Sta. Cruz	Dumacaa	Malatgao	Suague	Aganan	Sta. Barbara	Pangiplan	Manupali	Pulangui	Muleta	Mal	Padada
	2,185	1,839	3,014									5,155
Firmed-up Service Area (ha)	2,185	1,839	3,014	2,454	4,467	3,062	1,169	1,800	10,557	1,800	2,635	2,520
1) Large Current Meter (Torpedo Type)	None	-	-	-	-	-	-	-	1-A1	-	-	-
2) Digital Current Meter (Propeller Type)	1-A1	1-A1	1-A1	-	-	-	-	-	1-A1	-	1-A1	1-A1
3) Raingage	None	-	-	4-A1	1-A1	1-A1	-	-	5-A1	-	-	-
4) Evaporation Pan	None	-	-	-	-	-	-	-	-	-	-	-
5) Global Positioning System (Mapping Capability)	None	-	-	-	-	-	-	-	-	-	-	-
6) Geodetic Survey Instrument (Total Station)	Ordinary transit (A2)	-	-	-	-	-	-	-	-	-	-	-
7) Desktop Computer System (2GHZ, Core-2-Duo)	3-A1/2-A2	1-A1	1-A1	3-A1	13-A1/A2	13-A1/A2	4-A3	1-A1	13-A1	-	3-A1	10-A1
8) LCD Projector (15m)	1-A1	-	-	-	-	-	-	-	-	-	-	-
TOTAL												
PERCENT												
OVERALL												

Table D4-5

Existing Hydro-meteorological Equipment & Instruments (3/3)

Code No.	REGION 12						REGION 13		EQUIPMENT CONDITION	
	1201	1202	1203	1204	1205	1206	1301	1302		
	(25)	(26)	(27)	(28)	(29)	(30)	(31)	(32)		
IMO	SULTAN KUDARAT		SOUTH COTABATO-SARANGANI						AGUSAN DEL NORTE-SURIGAO DEL SUR	A1-Good Running Condition
NIS	Lambayong	Tacurong (Dumaguil)	Banga	Marbel - 1	Marbel - 2	Siluy-Buayan	Cabadbaran - Taguibo		A2-Minor Repair	
	13,116		7,463						2,500	2,540
Firmed-up Service Area (ha)	11,355	1,761	2,546	1,856	1,641	1,420	2,500	2,540	A1 A2 A3	
1) Large Current Meter (Torpedo Type)	1	1	-	-	-	-	-	-	0 0 0	
2) Digital Current Meter (Propeller Type)	-	-	-	-	-	-	1-A2	1-A2	8 2 0	
3) Raingage	5	5	-	3-A1	2-A1	-	1-A1	2-A1&A2	33 1 0	
4) Evaporation Pan	1	1	-	-	-	-	1-A1	-	0 0 0	
5) Global Positioning System (Mapping Capability)	-	-	-	-	-	1-A2	-	-	0 1 0	
6) Geodetic Survey Instrument (Total Station)	-	-	-	-	-	-	-	-	0 0 0	
7) Desktop Computer System (2GHZ, Core-2-Duo)	12-A2	12-A2	7-A1	7-A1	7-A1	4-A1	1-A1	-	117 32 0	
8) LCD Projector (15m)	-	-	-	-	-	-	-	-	1 0 0	
TOTAL									159 36 0	
PERCENT									81.54% 18.46% 0.00%	
OVERALL									195	

Table D4-6

Requirement O&M Heavy Equipment (1/3)

Code No.	REGION I											REGION 3											
	0101	0102	0103	0104	0105	0106	0107	0108	0109	0110	0111	0301											
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)											
IMO	ILOCOS NORTE											ILOCOS SUR			LA UNION			PANGASINAN			PAMPANG A-BATAAN		
NIS	Laoag Vintar	Dingras	Madongan Area	Soisona Area	Labugaon Area	Papa Area	Sta. Lucia-Candon	Tagudin	Amburayan	San Fabian	Dumuloc	Porac-Gurmain											
Firmed-up Service Area (ha)	2,286	1,004	2,933	1,340	1,470	2,337	1,423	1,253	3,289	2,026	1,232	3,126		3,126									
1) Backhoe, Front-end Wheel (0.5m ³)	11,370											2,676	3,289	3,258	3,126								
2) Backhoe, Excavator, Crawler (0.7m ³)	1											1	1	1	1								
3) Backhoe, Excavator, Crawler, Swampy, Long (0.7m ³)	0											0	0	0	0								
4) Crane, Crawler (16 ton)	0											0	0	0	0								
5) Prime Mover, Low Bed Type	0											0	0	0	0								
6) Front End Loader, Wheel Type, Articulated (1.15m ³)	0											0	0	0	0								
7) Tractor Dozer (85hp)	0											0	0	0	0								
8) Motor Grader (60hp)	1											1	1	1	1								
9) Motor Grader (120hp)	0											0	0	0	0								
10) Dump Truck (6m ³)	2											2	1	1	1								
11) Compactor, Vibratory (5 ton)	1											1	1	1	1								
IMO (Pooling and Detail)	5											3	2	2	4								

Remarks:

/1 Pooling of equipment to IMO or Regional Irrigation Office may vary depending on actual situations, factors affecting are as follows;

a) Distances of IMO to Regional Office, and b) Island like Malatgao RIS in Palawan Island.

/2 Motorcycles number of units is based on the approved position at the IMO Level

/3 Source: Based on NIA Standard Equipment Requirement by Size of Irrigation System

Table D4-6 Requirement O&M Heavy Equipment (2/3)

Code No.	REGION 6				REGION 10			REGION 11			
	0402 (14)	0403 (15)	0601 (16)	0602 (17)	0603 (18)	0604 (19)	1001 (20)	1002 (21)	1003 (22)	1101 (23)	1102 (24)
IMO	QUEZON- MARINDOQ UE	PALAWAN	ILOILO-GUIMARAS				BUKIDNON			DAVAO DEL SUR	
NIS	Dumacaa	Malatgao	Suague	Aganan	Sia. Barbara	Pangj- plan	Manupali	Pulangui	Muleta	Mal	Padada
	1,839	3,014	11,152				14,157			5,155	
Firmed-up Service Area (ha)	1,839	3,014	2,454	4,467	3,062	1,169	1,800	10,557	1,800	2,635	2,520
1) Backhoe, Front-end Wheel (0.5m ³)	1	1		1				1			1
2) Backhoe, Excavator, Crawler (0.7m ³)		0		0				0			0
3) Backhoe, Excavator, Crawler, Swampy, Long (0.7m ³)		0		0				0			0
4) Crane, Crawler (16 ton)		0		0				0			0
5) Prime Mover, Low Bed Type		0		0				0			0
6) Front End Loader, Wheel Type, Articulated (1.15m ³)		0		0				0			0
7) Tractor Dozer (85hp)		0		0				0			0
8) Motor Grader (60hp)		1		1				1			1
9) Motor Grader (120hp)		0		0				0			0
10) Dump Truck (6m ³)	1	1		2				2			1
11) Compactor, Vibratory (5 ton)		1		1				1			1
IMO (Pooling and Detail)	2	4		5				5			4

Table D4-6

Requirement O&M Heavy Equipment (3/3)

Code No.	REGION 12										REGION 13			QTY	UNIT COST (P'000,000)	TOTAL (P'000,000)
	1201	1202	1203	1204	1205	1206	1301	1302	AGUSAN DEL SUR							
	(25)	(26)	(27)	(28)	(29)	(30)	(31)	(32)	AGUSAN DEL SURIGAO DEL SUR	Simulao						
IMO	SULTAN KUDARAT					SOUTH COTABATO-SARANGANI					AGUSAN DEL SUR					
NIS	Lamba-yaong	Tacurong (Dumaguil)	Banga	Marbel - 1	Marbel - 2	Siluy-Buayan	Cabadbaran - Taguibo									
	13,116		7,463				2,500		2,540							
Firmed-up Service Area (ha)	11,355	1,761	2,546	1,856	1,641	1,420	2,500	2,500	2,540	2,540						
1) Backhoe, Front-end Wheel (0.5m ³)	1			1							1		13	7.0	91.00	
2) Backhoe, Excavator, Crawler (0.7m ³)			0								1		1	7.0	7.00	
3) Backhoe, Excavator, Crawler, Swampy, Long (0.7m ³)			0								1		1	11.0	11.00	
4) Crane, Crawler (16 ton)			0								0		0	15.0	0.00	
5) Prime Mover, Low Bed Type			0								0		0	8.0	0.00	
6) Front End Loader, Wheel Type, Articulated (1.15m ³)			0								0		0	7.0	0.00	
7) Tractor Dozer (85hp)			0								0		0	16.0	0.00	
8) Motor Grader (60hp)			1								0		7	9.0	63.00	
9) Motor Grader (120hp)			0								0		0	11.0	0.00	
10) Dump Truck (6m ³)	1			1							1	0	17	1.5	25.50	
11) Compactor, Vibratory (5 ton)			1								1		8	5.5	44.00	
IMO (Pooling and Detail)	4			2							5	0	47		Php241.50	

Table D4-7

Requirement of O&M Light Equipment (1/3)

Code No.	REGION I											REGION 3							
	REGION I											REGION 3							
	0101	0102	0103	0104	0105	0106	0107	0108	0109	0110	0111	0301	(12)						
No.	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)								
IMO	ILOCOS NORTE											ILOCOS SUR		LA UNION		PANGASINAN		PAMPANG A-BATAAN	
NIS	Laog Vintar	Dingras	Madongan Area	Solsona Area	Labugaon Area	Papa Area	Sta. Lucia-Candon	Tagudin	Amburayan	San Fabian	Dumuloc								
Firmed-up Service Area (ha)	2,286	1,004	2,933	1,340	1,470	2,337	1,423	1,253	3,289	2,026	1,232	3,126	3,126						
1) Pickup, Double Cab, 4 x 4 (.75T)			0				2		2	2			2						
2) Pickup, Single Cab, 4 x 4 (.75T)			0				0		0	0			0						
3) Cargo Truck (3-5T)			1				0		0	0			0						
4) Concrete Mixer, 1-Bagger (.16m ³)			1				1		1	1			1						
5) Air Compressor (86-125 cfm)			0				1		1	1			1						
6) Welding Machine (cutting & welding)-200 amp			0				1		1	1			1						
7) Water Pump (4" Diameter) (10cm)			1				1		1	1			1						
8) Motorcycle (125cc)			0				5		5	5			2						
IMO (Pooling and Detail)			3				11		11	11			8						

Remarks:

/1 Pooling of equipment to IMO or Regional Irrigation Office may vary depending on actual situations, factors affecting are as follows;

a) distances of IMO to Regional Office, and b) Island like Malagaç RIS in Palawan Island.

/2 Motorcycles number of units is based on the approved position at the IMO Level

/3 Source: Based on NIA Standard Equipment Requirement by Size of Irrigation System

Table D4-7

Requirement of O&M Light Equipment (2/3)

Code No.	REGION 4			REGION 6				REGION 10			REGION 11	
	0401 (13)	0402 (14)	0403 (15)	0601 (16)	0602 (17)	0603 (18)	0604 (19)	1001 (20)	1002 (21)	1003 (22)	1101 (23)	1102 (24)
IMO	LAGUNA-RIZAL	QUEZON-MARINDOC	PALAWAN	ILOILO-GUIMARAS				BUKIDNON			DAVAO DEL SUR	
NIS	Sta. Cruz	Dumacaa	Malatgao	Suague	Aganan	Sta. Barbara	Pangi-plan	Manupali	Pulangui	Muleta	Mal	Padada
Firmed-up Service Area (ha)	2,185	1,839	3,014	11,152				14,157			5,155	
	2,185	1,839	3,014	2,454	4,467	3,062	1,169	1,800	10,557	1,800	2,635	2,520
1) Pickup, Double Cab, 4 x 4 (.75T)	2	2	2	0	0	0	0	0	2	0	0	1
2) Pickup, Single Cab, 4 x 4 (.75T)	0	0	0	0	0	0	0	0	0	0	0	0
3) Cargo Truck (3-5T)	0	0	0	0	1	0	0	0	0	0	0	0
4) Concrete Mixer, 1-Bagger (.16m ³)	1	1	1	1	1	1	1	1	1	1	1	1
5) Air Compressor (86-125 cfm)	1	1	1	1	1	1	1	1	1	1	0	0
6) Welding Machine (cutting & welding)-200 amp	1	1	1	1	1	1	1	0	0	0	1	1
7) Water Pump (4" Diameter) (10cm)	1	1	1	1	1	1	1	1	1	1	1	1
8) Motorcycle (125cc)	9	16	6	34				5			0	
IMO (Pooling and Detail)	15	22	12	39				10			4	

Table D4-7 Requirement of O&M Light Equipment (3/3)

Code No.	REGION 12						REGION 13			Summary		
	1201	1202	1203	1204	1205	1206	1301	1302	TOTAL (nos)	UNIT COST (P million)	TOTAL (P million)	
	(25)	(26)	(27)	(28)	(29)	(30)	(31)	(32)				
IMO	SULTAN KUDARAT						AGUSAN DEL NORTE-SURIGAO DEL SUR					
NIS	Lamba-yaong	Tacurong (Dumaguili)	Banga	Marbel - 1	Marbel - 2	Siluyan-Buayan	Cabasaran - Taguibo	Simulao				
	13,116						7,463			2,500	2,540	
Firmed-up Service Area (ha)	11,355	1,761	2,546	1,856	1,641	1,420	2,500	2,540				
1) Pickup, Double Cab, 4 x 4 (.75T)	3				0		2	2	24	1.20	28.80	
2) Pickup, Single Cab, 4 x 4 (.75T)	0				0		0	0	0	0.90	0.00	
3) Cargo Truck (3-5T)	1				0		1	1	5	2.50	12.50	
4) Concrete Mixer, 1-Bagger (.16m³)	1				0		1	1	14	0.15	2.10	
5) Air Compressor (86-125 cfm)	1				0		1	1	12	0.80	9.60	
6) Welding Machine (cutting & welding)-200 amp	1				0		1	1	12	0.60	7.20	
7) Water Pump (4" Diameter) (10cm)	1				1		1	1	15	0.10	1.50	
8) Motorcycle (125cc)	23				0		5	4	119	0.15	17.85	
IMO (Pooling and Detail)	31				1		12	11	201		Php79.55	

Table D4-8

Requirement of O&M Instruments (1/3)

Code No.	REGION I											REGION 3							
	0101	0102	0103	0104	0105	0106	0107	0108	0109	0110	0111	REGION 3							
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	0301	(12)						
IMO	ILOCOS NORTE											ILOCOS SUR		LA UNION		PANGASINAN		PAMPANG A-BATAAN	
NIS	Laog Vintar	Dingras	Madongan Area	Solsona Area	Labugaon Area	Papa Area	Sta. Lucia-Candon	Tagudin	Amburayan	San Fabian	Dumuloc	Porac-Gumain							
	11,370											2,676		3,289		3,258		3,126	
Firmed-up Service Area (ha)	2,286	1,004	2,933	1,340	1,470	2,337	1,423	1,253	3,289	2,026	1,232	3,126							
1) Large Current Meter (Torpedo Type)	1	1	1	1	1	1	1	1	1	1	1	1							
2) Digital Current Meter (Propeller Type)	1	1	1	1	1	1	1	1	1	1	1	1							
3) Evaporation Pan (Dam-1, Field-2)	3	3	3	3	3	3	3	3	3	3	3	3							
4) Raingage (Dam-1, Field-2)	3	3	3	3	3	3	3	3	3	3	3	3							
5) Global Positioning System (Mapping Capability)	1	1	1	1	1	1	1	1	1	1	1	1							
6) Geodetic Survey Instrument (Total Station)	1											1		1					
7) Desktop Computer System (2GHZ, Core-2-Duo)	1	1	1	1	1	1	1	1	1	1	1	1							
8) LCD Projector (15m)	1											1		1					
IMO (Pooling and Detail)	62											22		10		22		12	

Remarks:

/1 Pooling of equipment to IMO or Regional Irrigation Office may vary depending on actual situations, factors affecting are as follows;

a) distances of IMO to Regional Office, and b) Island like Malatgao RIS in Palawan Island.

/2 Motorcycles number of units is based on the approved position at the IMO Level

/3 Source: Based on NIA Standard Equipment Requirement by Size of Irrigation System

Table D4-8

Requirement of O&M Instruments (2/3)

	REGION 4			REGION 6					REGION 10				REGION 11	
	0401 (13)	0402 (14)	0403 (15)	0601 (16)	0602 (17)	0603 (18)	0604 (19)	1001 (20)	1002 (21)	1003 (22)	1101 (23)	1102 (24)		
IMO	LAGUNA- RIZAL	QUEZON- MARINDOQ UE	PALAWAN	ILOILO-GUIMARAS					BUKIDNON				DAVAO DEL SUR	
NIS	Sta. Cruz	Dumacaa	Malalgao	Suague	Aganan	Sta. Barbara	Pangi-plan	Manupali	Pulangui	Muleta	Mal	Padada		
	2,185	1,839	3,014	11,152					14,157				5,155	
Firmed-up Service Area (ha)	2,185	1,839	3,014	2,454	4,467	3,062	1,169	1,800	10,557	1,800	2,635	2,520		
1) Large Current Meter (Torpedo Type)	1	1	1	1	1	1	1	1	1	1	1	1		
2) Digital Current Meter (Propeller Type)	1	1	1	1	1	1	1	1	1	1	1	1		
3) Evaporation Pan (Dam-1, Field-2)	3	3	3	3	3	3	3	3	3	3	3	3		
4) Raingage (Dam-1, Field-2)	3	3	3	3	3	3	3	3	3	3	3	3		
5) Global Positioning System (Mapping Capability)	1	1	1	1	1	1	1	1	1	1	1	1		
6) Geodetic Survey Instrument (Total Station)	1	1	1	1					1				1	
7) Desktop Computer System (2GHZ, Core-2-Duo)	1	1	1	1	1	1	1	1	1	1	1	1		
8) LCD Projector (15m)	1	1	1	1					1				1	
IMO (Pooling and Detail)	12	12	12	42					32				22	

Table D4-8

Requirement of O&M Instruments (3/3)

Code No.	REGION 12										REGION 13			Summary		
	1201	1202	1203	1204	1205	1206	1301	1302	QTY		UNIT COST (P million)	TOTAL (P million)				
	(25)	(26)	(27)	(28)	(29)	(30)	(31)	(32)								
IMO	SULTAN KUDARAT		SOUTH COTABATO-SARANGANI				AGUSAN DEL NORTE- SURIGAO DEL SUR		AGUSAN DEL SUR							
NIS	Lamba- yaong	Tacurong (Dumaguili)	Banga	Marbel - 1	Marbel - 2	Situy- Buayan	Cabad- baran - Taguibo		Simulao							
	13,116		7,463				2,500		2,540							
Firmed-up Service Area (ha)	11,355	1,761	2,546	1,856	1,641	1,420	2,500		2,540							
1) Large Current Meter (Torpedo Type)	1	1	1	1	1	1	1	1	1	32	0.20	6.40				
2) Digital Current Meter (Propeller Type)	1	1	1	1	1	1	1	1	1	32	0.30	9.60				
3) Evaporation Pan (Dam-1, Field-2)	3	3	3	3	3	3	3	3	3	96	0.02	1.44				
4) Raingage (Dam-1, Field-2)	3	3	3	3	3	3	3	3	3	96	0.02	1.44				
5) Global Positioning System (Mapping Capability)	1	1	1	1	1	1	1	1	1	32	0.02	0.64				
6) Geodetic Survey Instrument (Total Station)	1	1	1	1	1	1	1	1	1	14	0.50	7.00				
7) Desktop Computer System (2GHZ, Core-2-Duo)	1	1	1	1	1	1	1	1	1	32	0.10	3.20				
8) LCD Projector (15m)	1	1	1	1	1	1	1	1	1	14	0.20	2.80				
IMO (Pooling and Detail)	22			42			12	12	12	348		Php32.52				

Annex E
Cost Estimate

Final Report
Annex E
Cost Estimate

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Annex E-1

Cost Estimate of Civil Works

Table E1-1 Summary of Cost Estimate by NIS Short-listed for SLRIFP

CODE	REGION	Irrigation Management Office (IMC) and Regional Irrigation Office (RIO)	NIS	FIRMED-UP SERVICE AREA, 2008 (ha)	CIVIL WORKS (DIRECT COST) million pesos															INDIRECT COST million pesos			TOTAL PROJECT COST (million Pesos)	REHABILITATION COST PER HECTARE (P/ha)
					MOBILIZATION (2% of DC)	PROTECTION DIKES	DIVERSION WORKS	CANALIZATION	CANAL STRUCTURES	DRAINAGE CANAL	DRAINAGE STRUCTURES	ROADS	ON-FARM FACILITIES	IMT Support Facilities	IMT GIS DATABASE	Institutional Development Program	FS/DE (2% of D.C.)	DIRECT COST SUB-TOTAL	GESA (3.5% of D.C.)	NIA MANAGEMENT (% of TPC)	INDIRECT COST SUB-TOTAL			
1	2	3	4	5	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27-28	29
0101			Laog Vintar	2,286	4.82	18.71	12.77	126.43	32.21	6.86	4.57	7.33	1.56	15.00	2.29	4.80	4.82	241.16	8.44	13.14	21.58	262.74	114.935	
0102			Dingras	1,004	1.61	0.00	43.21	9.84	9.00	3.01	2.01	0.54	0.71	5.00	1.00	3.10	1.61	80.64	2.82	4.39	7.22	87.86	87,509	
0103			Madongan Area	2,933	5.12	13.90	135.46	44.06	8.52	8.80	5.87	3.91	1.97	15.00	2.93	5.20	5.12	255.85	8.95	13.94	22.89	278.74	95,037	
0104			Solsona Area	1,340	2.30	5.46	63.17	5.97	0.19	4.02	2.68	12.74	0.93	10.00	1.34	3.90	2.30	114.99	4.02	6.26	10.29	125.28	93,493	
0105			Labugan Area	1,470	1.57	0.56	16.18	9.22	15.97	4.41	2.94	1.20	0.99	15.00	1.47	7.30	1.57	78.37	2.74	4.27	7.01	85.38	98,082	
0106	R-1		Papa Area	2,337	3.27	11.83	56.08	27.30	21.93	7.01	4.87	0.83	1.57	20.00	2.34	3.50	3.27	163.59	5.73	8.91	14.84	178.23	76,265	
0107			Sta. Lucia - Candon	1,423	1.25	0.00	6.00	22.75	5.13	4.27	2.85	2.00	0.97	10.00	1.42	4.60	1.25	62.49	2.19	3.40	5.59	68.08	47,846	
0108			Tagudin	1,253	2.16	0.00	33.86	29.63	8.46	3.76	2.51	9.31	0.88	10.00	1.25	4.10	2.16	108.08	3.78	5.89	9.67	117.75	93,975	
0109			Amburayan	3,289	2.44	0.00	1.45	33.19	27.07	12.00	6.58	1.50	2.20	20.00	3.29	9.90	2.44	122.05	4.27	6.65	10.92	132.97	40,430	
0110			San Fabian	2,026	2.02	2.44	24.36	13.22	5.19	6.08	4.05	1.39	17.50	15.00	2.03	5.60	2.02	100.89	3.53	5.50	9.03	109.92	54,253	
0111			Dumulooc	1,232	1.84	0.00	32.96	16.53	2.28	4.46	2.46	0.60	11.24	10.00	1.23	6.60	1.84	92.03	3.22	5.01	8.23	100.26	81,384	
0301	R-3		Sub-total	20,593	28.40	52.89	425.50	337.13	135.94	64.87	41.19	41.34	40.50	145.00	20.59	58.60	28.40	1,420.16	48.71	77.36	127.07	1,547.23	75,134	
			Pampanga-Bataan	3,126	4.08	0.00	60.00	42.00	35.00	9.38	6.25	1.25	4.00	20.00	3.13	14.80	4.08	203.96	7.14	11.11	18.25	222.21	71,086	
			Lagna-Rizar	2,185	1.77	0.00	1.00	35.25	1.59	6.56	4.37	12.59	1.50	15.00	2.19	5.10	1.77	88.68	3.10	4.83	7.93	96.61	44,217	
			Quezon-Mainitduque	1,839	2.74	0.00	8.12	78.27	2.65	5.52	3.68	9.64	1.28	15.00	1.84	5.40	2.74	136.88	4.79	7.46	12.25	149.12	81,088	
			Palawan	3,014	4.57	0.00	2.13	145.95	16.23	9.04	6.03	10.22	3.32	10.00	3.01	13.20	4.57	228.26	7.99	12.43	20.42	248.68	82,508	
			Sub-total	7,038	9.08	0.00	11.25	259.47	20.47	21.11	14.08	32.45	6.09	40.00	7.04	23.70	9.08	453.81	15.88	24.72	40.60	494.42	70,250	
0601	R-6		Suaga	2,454	4.11	0.00	71.00	83.52	3.83	7.36	4.91	2.81	1.68	15.00	2.45	4.80	4.11	205.59	7.20	11.20	18.39	223.98	91,272	
0602			Aganan	4,467	7.18	0.00	20.00	232.93	32.66	13.40	8.93	3.44	2.99	20.00	4.47	6.00	7.18	359.18	12.57	19.57	32.14	391.32	87,603	
0603			Sta. Barbara	3,062	3.63	0.00	91.13	31.96	3.96	9.19	6.12	2.10	2.10	20.00	3.06	4.40	3.63	181.27	6.34	9.87	16.22	197.49	64,496	
0604			Pangiplan	1,169	1.61	0.00	3.14	40.11	3.01	3.51	2.34	3.51	1.31	15.00	1.17	4.40	1.61	80.72	2.83	4.40	7.22	87.95	75,231	
			Sub-total	11,152	16.54	0.00	185.27	388.52	43.46	33.46	22.30	11.86	8.07	70.00	11.15	19.60	16.54	825.76	28.94	45.04	73.97	900.74	80,769	
1001			Manupali	1,800	2.33	0.00	10.95	14.07	9.48	5.40	3.60	17.20	27.76	15.00	1.80	6.50	2.33	116.40	4.07	6.34	10.42	126.82	70,455	
1002			Pulangui	10,557	13.01	0.00	3.51	385.47	36.41	22.24	21.11	60.23	7.08	55.00	10.56	22.80	13.01	650.43	22.77	35.43	58.20	708.63	67,124	
1003	R-10		Muleta	1,800	2.47	0.00	25.00	8.97	3.80	10.53	3.60	38.54	5.50	15.00	1.80	6.00	2.47	123.69	4.33	6.74	11.07	134.75	74,863	
			Sub-total	14,157	17.81	0.00	39.46	408.51	49.69	38.17	28.31	115.97	40.34	85.00	14.16	35.30	17.81	890.52	31.17	48.51	79.88	970.20	68,532	

Table E1-1 Summary of Cost Estimate by NIS Short-listed for SLRIFP

CODE	REGION	Irrigation Management Office (IMO) and Regional Irrigation Office (RIO)	NIS	FIRMED-UP SERVICE AREA, 2008 (Ha)	CIVIL WORKS (DIRECT COST) million pesos																	INDIRECT COST million pesos			TOTAL PROJECT COST (million Pesos)	REHABILITATION COST PER HECTARE (P/Ha)
					MOBILIZATION (2% of DC)	PROTECTION DIKES	DIVERSION WORKS	CANALIZATION	CANAL STRUCTURES	DRAINAGE CANAL	DRAINAGE STRUCTURES	ROADS	ON-FARM FACILITIES	IMT Support Facilities	IMT GIS DATABASE	Institutional Development Program	FS/DE (2% of D.C.)	DIRECT COST SUB-TOTAL	GESA (3.5% of D.C.)	NIA MANAGEMENT (5% of TPC)	INDIRECT COST SUB-TOTAL					
1	2	3	4	5	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27-28-5			
1101	R-11	Davao del Sur	Mal	2,635	2.71	0.00	16.32	54.50	3.44	7.91	5.27	5.01	1.77	25.00	2.64	8.20	2.71	135.47	4.74	7.38	12.12	147.59	56,011			
1102			Padada	2,520	4.04	0.00	21.27	115.66	3.76	7.56	5.04	15.81	1.71	15.00	2.52	5.40	4.04	201.80	7.06	10.99	18.06	219.86	87,245			
			Sub-total	5,155	6.75	0.00	37.59	170.16	7.20	15.47	10.31	20.82	3.48	40.00	5.16	13.60	6.75	337.27	11.80	18.37	30.18	367.45	71,280			
1201			Lambayong	11,355	10.48	36.22	0.50	175.11	64.85	34.07	22.71	68.52	9.70	60.00	11.36	19.90	10.48	523.89	18.34	28.54	46.87	570.76	50,265			
1202			Tacurong (Dumaguili)	1,761	2.26	0.00	17.24	15.91	2.89	20.40	3.52	24.79	1.19	15.00	1.76	6.00	2.26	113.23	3.96	6.17	10.13	123.36	70,050			
1203			Banga	2,546	4.99	80.00	26.64	75.30	5.12	7.64	5.09	4.20	4.65	15.00	2.55	13.20	4.99	249.36	8.73	13.58	22.31	271.67	106,705			
1204	R-12	South Cotabato-Sarangani	Marbel - 1	1,856	3.17	0.00	8.59	68.48	10.92	7.95	3.71	25.30	5.06	10.00	1.86	10.30	3.17	158.51	5.55	8.63	14.18	172.69	93,045			
1205			Marbel - 2	1,641	2.71	0.00	4.43	69.84	4.00	5.69	3.28	20.75	2.00	10.00	1.64	8.40	2.71	135.45	4.74	7.38	12.12	147.57	89,927			
1206			Silvey Buayan	1,420	2.54	0.00	3.50	84.75	5.46	4.26	2.84	2.06	0.97	10.00	1.42	6.50	2.54	126.83	4.44	6.91	11.35	138.18	97,311			
			Sub-total	20,579	26.15	116.22	60.90	489.39	93.24	80.00	41.16	145.62	23.57	120.00	20.58	64.30	26.15	1,307.27	45.75	71.21	116.97	1,424.23	69,208			
1301	R-13	North-Sungao del Norte	Cabadbaran - Taguibo	2,500	6.03	0.00	172.97	12.31	0.00	29.06	5.00	26.68	11.00	20.00	2.50	9.80	6.03	301.38	10.55	16.42	26.97	328.34	131,338			
1302			Agusan del Sur, Simulao	2,540	4.77	0.00	5.75	44.06	17.06	112.90	5.08	12.72	2.62	15.00	2.54	11.30	4.77	238.57	8.35	13.00	21.35	259.92	102,329			
			Sub-total	5,040	10.80	0.00	178.72	56.37	17.06	141.96	10.08	39.40	13.62	35.00	5.04	21.10	10.80	539.95	18.90	29.41	48.31	588.26	116,718			
			Total	86,840	119.59	169.11	998.68	2,151.54	402.06	404.23	173.68	408.72	138.66	555.00	86.84	251.00	119.59	5,979.71	209.29	325.74	535.03	6,514.74	75,020			

Note: Cost of On-farm Facility = Numbers of Existing F.T.O.P*15,000-10% of Existing F.T.O.P*50,000 or Estimated Cost Recommended by NIS
 Cost of IMT Support Facilities = FUSAV/4,000ha*P5,000,000 or Estimated cost recommended by NIS
 Cost of Drainage Canal = P3,000/Ha or Estimated Cost Recommended by NIS
 Cost of Drainage Structure = P2,000/Ha or Estimated Cost Recommended by NIS

Table E1-2

Base Cost of Labor and Material for Civil Works by NIS (1/3)

(Php)

Region	REGION 1											REGION 3	
	0101	0102	0103	0104	0105	0106	0107	0108	0109	0110	0111	Average Region 1	0301
NIS	Laoag Vintar	Dingras	Madongan Area	Solsona Area	Labugaon Area	Papa Area	Sta. Lucia-Candon	Tagudin	Amburayan	San Fabian	Dumuloc		Porac-Gumain
Firmed-up Service Area (ha)	2,286	1,004	2,933	1,340	1,470	2,337	1,423	1,253	3,289	2,026	1,232		3,126
Area Increased with Project (ha)	184	19	2,193	909	741	1,117	0	17	403	1,217	320		1,286
A. Labor Cost													
1) Foreman (man-day)	380.00	380.00	380.00	380.00	380.00	380.00	546.65	546.65	450.00	350.00	350.00	411.21	600.00
2) Carpenter (man-day)	320.00	320.00	320.00	320.00	320.00	320.00	387.34	387.34	400.00	300.00	300.00	335.88	450.00
3) Steelman (man-day)	320.00	320.00	320.00	320.00	320.00	320.00	387.34	387.34	350.00	300.00	300.00	331.33	400.00
4) H.E. Operator (man-day)	320.00	320.00	320.00	320.00	320.00	320.00	512.49	512.49	350.00	320.00	320.00	357.73	450.00
5) L.E. Operator (man-day)	250.00	250.00	250.00	250.00	250.00	250.00	418.34	418.34	300.00	300.00	300.00	294.24	400.00
6) Driver (man-day)	324.00	324.00	320.00	320.00	324.00	324.00	447.65	447.65	300.00	320.00	320.00	342.85	407.00
7) Laborer (man-day)	250.00	250.00	250.00	250.00	250.00	250.00	279.50	279.50	200.00	230.00	230.00	247.00	254.00
B. Material Cost													
1) Fuel (liters)	40.00	40.00	40.00	40.00	40.00	40.00	40.00	40.00	55.00	30.55	30.55	39.65	40.00
2) Cement (bag)	240.00	240.00	240.00	240.00	240.00	240.00	250.00	250.00	190.00	205.00	205.00	230.91	240.00
3) Sand (cu.m.)	140.00	140.00	140.00	140.00	140.00	140.00	1,050.00	1,050.00	601.30	280.00	280.00	372.85	270.00
4) Gravel (cu.m.)	240.00	240.00	240.00	240.00	240.00	240.00	1,050.00	1,050.00	635.50	320.00	320.00	437.77	895.00
5) Boulder (cu.m)	350.00	350.00	350.00	350.00	350.00	350.00	1,500.00	1,500.00	812.50	350.00	350.00	601.14	600.00
6) Common mat. (cu.m.)	152.50	152.20	152.20	152.20	152.50	152.50	152.50	152.50	152.50	250.00	250.00	170.15	200.00
7) Plywood (pc.)	580.00	580.00	580.00	580.00	580.00	580.00	750.00	750.00	280.00	295.00	295.00	531.82	855.00
8) Form Lumber (bd.ft.)	50.00	50.00	50.00	50.00	50.00	50.00	44.00	84.00	32.00	38.00	38.00	48.73	45.00
9) RSB (kg)	65.00	65.00	65.00	65.00	65.00	65.00	50.00	50.00	35.00	60.00	60.00	58.64	55.00
10) CHB (pc.)	7.00	7.00	7.00	7.00	7.00	7.00	8.00	8.00	6.00	6.00	6.00	6.91	8.00

Table E1-2

Base Cost of Labor and Material for Civil Works by NIS (2/3)

(PhP)

Region	REGION 4			Average Region 4	REGION 6				Average Region 6	REGION 10			Average Region 10
	0401	0402	0403		0601	0602	0603	0604		1001	1002	1003	
NIS	Sta. Cruz	Dumacaa	Malatgao		Suague	Aganan	Sta. Barbara	Pangiplan		Manupali	Pulangui	Muleta	
Firmed-up Service Area (ha)	2,185	1,839	3,014		2,454	4,467	3,062	1,169		1,800	10,557	1,800	
Area Increased with Project (ha)	277	445	725		17	6	403	157		263	519	431	
A. Labor Cost													
1) Foreman (man-day)	412.00	380.00	500.00	430.67	350.00	546.63	546.63	350.00	448.32	969.40	546.64	530.00	682.01
2) Carpenter (man-day)	361.00	320.00	400.00	360.33	270.00	387.36	387.36	270.00	328.68	715.29	387.36	385.00	495.88
3) Steelman (man-day)	236.00	320.00	300.00	285.33	270.00	387.36	387.36	220.00	316.18	335.25	418.36	385.00	379.54
4) H.E. Operator (man-day)	350.00	320.00	460.00	376.67	350.00	512.50	512.50	350.00	431.25	896.65	512.50	896.65	768.60
5) L.E. Operator (man-day)	236.00	250.00	400.00	295.33	230.00	387.36	387.36	230.00	308.68	797.85	447.64	797.85	681.11
6) Driver (man-day)	492.00	324.00	400.00	405.33	250.00	447.65	447.65	250.00	348.83	797.85	447.64	797.85	681.11
7) Laborer (man-day)	236.00	250.00	250.00	245.33	203.00	279.50	279.50	203.00	241.25	233.11	279.50	233.11	248.57
B. Material Cost													
1) Fuel (liters)	28.00	60.00	60.00	49.33	35.00	35.00	35.00	35.00	35.00	36.00	30.80	38.15	34.98
2) Cement (bag)	246.00	250.00	274.65	256.88	240.00	240.00	240.00	240.00	240.00	236.00	262.90	255.00	251.30
3) Sand (cu.m.)	2,015.00	1,250.00	1,150.00	1,471.67	250.00	250.00	250.00	250.00	250.00	730.00	400.00	750.00	626.67
4) Gravel (cu.m.)	2,065.00	1,300.00	1,250.00	1,538.33	600.00	600.00	600.00	350.00	537.50	730.00	350.00	750.00	610.00
5) Boulder (cu.m)	1,383.00	1,000.00	1,500.00	1,294.33	450.00	450.00	450.00	150.00	375.00	100.00	100.00	100.00	100.00
6) Common mat. (cu.m.)	1,515.00	800.00	225.00	846.67	300.00	300.00	300.00	300.00	300.00	200.00	200.00	200.00	200.00
7) Plywood (pc.)	731.00	900.00	783.91	804.97	650.00	650.00	650.00	650.00	650.00	380.00	517.00	420.00	439.00
8) Form Lumber (bd.ft.)	36.00	28.50	34.55	33.02	30.00	30.00	30.00	30.00	30.00	20.00	13.20	22.00	18.40
9) RSB (kg.)	34.00	68.00	91.17	64.39	40.00	40.00	40.00	40.00	40.00	55.00	76.00	56.50	62.50
10) CHB (pc.)	19.00	15.00	28.33	20.78	10.00	10.00	10.00	0.00	7.50	5.50	12.00	7.00	8.17

Table E1-2

Base Cost of Labor and Material for Civil Works by NIS (3/3)

(PhP)

Region	REGION 11		REGION 12							REGION 13			Average Region Wide	
	1101	1102	Average Region 11	1201	1202	1203	1204	1205	1206	Average Region 12	1301	1302		Average Region 13
Code No.														
NIS	Mal	Padada		Lambayong	Tacurong (Dumaguili)	Banga	Marbel - 1	Marbel - 2	Siluy-Buayan		Cabadbaran - Taguibo			
Firmed-up Service Area (ha)	2,635	2,520		11,355	1,761	2,546	1,856	1,641	1,420		2,500	2,540		
Area Increased with Project (ha)	135	28		3,740	1,761	41	44	11	67		213	251		
A. Labor Cost														
1) Foreman (man-day)	546.63	546.63	546.63	352.00	352.00	395.86	395.86	395.86	451.77		462.00	450.00	456.00	495.67
2) Carpenter (man-day)	387.36	387.36	387.36	284.13	284.13	320.13	320.13	320.13	320.13		330.00	350.00	340.00	375.78
3) Steelman (man-day)	387.36	387.36	387.36	284.13	284.13	320.13	320.13	320.13	320.13		330.00	300.00	315.00	340.36
4) H.E. Operator (man-day)	512.50	512.50	512.50	423.54	423.54	423.54	423.54	423.54	423.54		396.00	400.00	398.00	464.79
5) L.E. Operator (man-day)	418.36	418.36	418.36	345.72	345.72	345.72	345.72	345.72	345.72		300.00	300.00	300.00	380.43
6) Driver (man-day)	447.63	447.63	447.63	369.95	369.95	369.95	369.95	369.95	369.95		330.00	320.00	325.00	415.96
7) Laborer (man-day)	279.50	279.50	279.50	220.00	220.00	220.00	220.00	220.00	220.00		256.30	230.00	243.15	247.35
B. Material Cost														
1) Fuel (liters)	35.95	35.95	35.95	50.00	50.00	50.00	50.00	50.00	35.00		71.50	35.00	53.25	41.96
2) Cement (bag)	214.75	214.75	214.75	230.00	230.00	250.00	250.00	250.00	218.00		286.00	230.00	258.00	241.23
3) Sand (cu.m.)	500.00	500.00	500.00	280.00	280.00	500.00	500.00	500.00	500.00		330.00	150.00	240.00	519.73
4) Gravel (cu.m.)	500.00	500.00	500.00	900.00	900.00	900.00	900.00	900.00	600.00		385.00	150.00	267.50	704.51
5) Boulder (cu.m)	500.00	500.00	500.00	900.00	900.00	1,000.00	1,000.00	1,000.00	700.00		330.00	250.00	290.00	584.64
6) Common mat. (cu.m.)	300.00	300.00	300.00	500.00	500.00	300.00	300.00	250.00	350.00		80.00	80.00	80.00	307.93
7) Plywood (pc.)	675.00	675.00	675.00	550.00	550.00	850.00	850.00	850.00	755.00		369.05	680.00	524.53	651.81
8) Form Lumber (bd.ft.)	35.00	35.00	35.00	26.00	26.00	20.00	20.00	20.00	16.00		28.60	24.00	26.30	32.22
9) RSB (kg.)	41.50	41.50	41.50	65.00	65.00	72.00	72.00	72.00	80.00		104.50	50.00	77.25	58.78
10) CHB (pc.)	11.50	11.50	11.50	12.50	12.50	7.00	7.00	7.00	7.00		13.20	9.00	11.10	10.35

Table E1-3

Unit Cost of Civi Work Items (2/3)

(PnP)

Region Code No. No.	REGION 4			Ave. Region 4	REGION 6					Ave. Region 6	REGION 10			Ave. Region 10	
	0401 (13)	0402 (14)	0403 (15)		0601 (16)	0602 (17)	0603 (18)	0604 (19)	1001 (20)		1002 (21)	1003 (22)			
	Sta. Cruz	Dumacaa	Malatgao		Suague	Aganan	Sta. Barbara	Pangiplan	Manupali		Pulangui	Muleta			
1. CONCRETE WORKS															
Plain Concrete (Class A / 3000 psi)	13,811.11	13,811.11	13,936.83	13,853.02	9,200.00	9,200.00	9,200.00	9,200.00	9,200.00	9,200.00	9,200.00	9,200.00	9,200.00	9,200.00	11,216.60
Plain Concrete (Class B / 2400 psi)	4,471.60	4,471.60	10,273.61	6,405.60	7,300.00	7,300.00	7,300.00	7,300.00	7,300.00	7,300.00	7,300.00	7,300.00	7,300.00	7,300.00	5,300.73
Reinforced Concrete (Class A / 3000 psi)	15,900.16	11,705.15	13,936.83	13,847.38	12,100.00	12,100.00	12,100.00	12,100.00	12,100.00	12,100.00	12,100.00	12,100.00	12,100.00	12,100.00	12,342.37
Reinforced Concrete (Class B / 2400 psi)	13,250.13	9,754.29	11,614.03	11,539.48	10,100.00	10,100.00	10,100.00	10,100.00	10,100.00	10,100.00	10,100.00	10,100.00	10,100.00	10,100.00	10,500.00
Concrete Hollow Blocks (6", 600psi)	1,845.83	1,845.83	1,845.83	1,845.83	1,605.20	1,615.57	1,605.20	1,608.01	1,608.01	1,608.01	1,608.01	1,608.01	1,608.01	1,608.01	800.00
RC Pipe 12" Diameter	1,800.00	1,800.00	1,800.00	1,800.00	850.00	850.00	850.00	850.00	1,581.33	1,581.33	1,581.33	1,581.33	1,581.33	1,581.33	1,978.00
RC Pipe 18" Diameter	2,521.50	2,521.50	2,521.50	2,521.50	1,200.00	1,200.00	1,200.00	1,200.00	2,664.36	2,664.36	2,664.36	2,664.36	2,664.36	2,664.36	2,644.83
RC Pipe 24" Diameter	3,420.50	3,420.50	3,420.50	3,420.50	1,850.00	1,850.00	1,850.00	1,850.00	3,598.04	3,598.04	3,598.04	3,598.04	3,598.04	3,598.04	3,602.35
RC Pipe 30" Diameter	4,319.50	4,319.50	4,319.50	4,319.50	2,650.00	2,650.00	2,650.00	2,650.00	5,327.09	5,327.09	5,327.09	5,327.09	5,327.09	5,327.09	5,008.97
RC Pipe 36" Diameter	5,218.50	5,218.50	5,218.50	5,218.50	3,230.00	3,230.00	3,230.00	3,230.00	7,846.70	7,846.70	7,846.70	7,846.70	7,846.70	7,846.70	6,564.34
RC Pipe 42" Diameter	6,117.50	6,117.50	6,117.50	6,117.50	3,880.00	3,880.00	3,880.00	3,880.00	10,015.38	10,015.38	10,015.38	10,015.38	10,015.38	10,015.38	8,855.00
RC Pipe 48" Diameter	7,016.50	7,016.50	7,016.50	7,016.50	4,650.00	4,650.00	4,650.00	4,650.00	4,650.00	4,650.00	4,650.00	4,650.00	4,650.00	4,650.00	9,528.48
2. EARTHWORKS															
Excavation (Mechanized)	155.10	127.65	199.17	160.64	110.00	110.00	110.00	110.00	107.04	107.04	107.04	107.04	107.04	107.04	71.81
Excavation (Manual)	124.08	159.50	124.08	135.89	160.00	160.00	160.00	160.00	137.55	137.55	137.55	137.55	137.55	137.55	196.27
Backfill (Manual)	165.40	165.40	149.38	160.06	106.00	106.00	106.00	106.00	102.31	102.31	102.31	102.31	102.31	102.31	121.59
Backfill (Mechanize)	149.38	149.38	149.38	149.38	47.00	47.00	47.00	47.00	61.16	61.16	61.16	61.16	61.16	61.16	84.38
Embankment (Manual)	198.42	198.42	198.42	198.42	550.00	550.00	550.00	550.00	102.31	102.31	102.31	102.31	102.31	102.31	266.01
Embankment (Mechanized)	844.65	844.65	612.00	767.10	465.00	465.00	465.00	465.00	34.56	34.56	34.56	34.56	34.56	34.56	180.95
3. OTHER WORKS															
Rubble Masonry	4,705.30	4,705.30	4,705.30	4,705.30	3,560.00	3,560.00	3,560.00	3,560.00	4,462.72	4,462.72	4,462.72	4,462.72	4,462.72	4,462.72	4,718.26
Gravel Fill / Bedding	612.00	612.00	612.00	612.00	750.00	750.00	750.00	750.00	1,553.00	1,553.00	1,553.00	1,553.00	1,553.00	1,553.00	2,250.60
Boulder Fill	1,853.12	1,853.12	1,520.57	1,742.27	1,650.00	1,650.00	1,650.00	1,650.00	859.74	859.74	859.74	859.74	859.74	859.74	2,405.15
Grouted Riprap	5,859.15	5,859.15	4,807.69	5,508.66	3,260.00	3,260.00	3,260.00	3,260.00	3,919.91	3,919.91	3,919.91	3,919.91	3,919.91	3,919.91	3,995.87
Dry Riprap	1,527.20	1,527.20	1,527.20	1,527.20	2,980.00	2,980.00	2,980.00	2,980.00	3,583.23	3,583.23	3,583.23	3,583.23	3,583.23	3,583.23	1,718.35

Table E1-3

Unit Cost of Civi Work Items (3/3)

(PhP)

Region	REGION 11			REGION 12								REGION 13			Ave. Region 13	Ave. Nation Wide
	1101 (23)	1102 (24)	Ave. Region 11	1201 (25)	1202 (26)	1203 (27)	1204 (28)	1205 (29)	1206 (30)	Ave. Region 12	1301 (31)	1302 (32)	Ave. Region 13			
	Mail	Padada		Lambayong	Tacurong (Dumaguil)	Banga	Marbel - 1	Marbel - 2	Siluy- Buayan		Cabasaran - Teguibo	Simulao				
1. CONCRETE WORKS																
Plain Concrete (Class A / 3000 psi)	8,994.85	8,994.85	8,994.85	11,159.20	7,001.00	8,049.60	8,049.60	8,049.60	8,049.60	7,525.30	8,056.70	7,398.00	7,727.35	9,076.88		
Plain Concrete (Class B / 2400 psi)	5,106.32	4,541.70	4,824.01	10,053.80	7,149.35	7,497.75	7,497.75	7,497.75	7,497.75	7,323.55	6,389.49	8,445.24	7,417.37	6,207.14		
Reinforced Concrete (Class A / 3000 psi)	10,516.26	9,154.65	9,835.46	11,820.05	11,159.20	11,820.05	11,820.05	11,820.05	11,820.05	11,489.63	12,487.00	15,626.31	14,056.66	12,783.06		
Reinforced Concrete (Class B / 2400 psi)	6,925.26	6,925.26	6,925.26	11,037.20	10,053.80	11,037.20	11,037.20	11,037.20	11,037.20	10,973.38	11,925.94	14,924.20	13,425.07	11,126.52		
Concrete Hollow Blocks (6", 600psi)	850.00	850.00	850.00	898.00	898.00	898.00	898.00	898.00	898.00	898.00	850.00	850.00	850.00	1,390.45		
RC Pipe 12" Diameter	1,646.50	1,647.50	1,647.00	2,850.20	2,850.20	2,841.15	2,841.15	2,841.15	2,845.68	2,845.68	2,500.00	2,500.00	2,500.00	1,930.16		
RC Pipe 18" Diameter	2,201.57	2,202.91	2,202.24	3,860.00	3,860.00	2,328.00	2,328.00	2,328.00	3,094.00	3,094.00	3,568.51	3,728.40	3,648.46	2,534.28		
RC Pipe 24" Diameter	2,421.25	2,421.25	2,421.25	4,484.20	4,484.20	3,094.30	3,094.30	3,094.30	3,789.25	3,789.25	5,088.18	4,670.30	4,879.24	3,297.82		
RC Pipe 30" Diameter	3,925.00	3,925.00	3,925.00	5,531.65	5,531.65	5,556.00	5,556.00	5,556.00	5,543.83	5,543.83	7,768.37	7,115.15	7,441.76	4,739.28		
RC Pipe 36" Diameter	4,942.50	4,942.50	4,942.50	6,177.50	6,177.50	8,035.80	8,035.80	8,035.80	7,106.65	7,106.65	10,179.59	10,179.59	10,179.59	6,640.80		
RC Pipe 42" Diameter	5,766.25	5,766.25	5,766.25	7,514.20	7,514.20	7,514.20	7,514.20	7,514.20	7,514.20	7,514.20	11,100.00	11,100.00	11,100.00	7,683.59		
RC Pipe 48" Diameter	6,590.00	6,590.00	6,590.00	8,850.90	8,850.90	8,850.90	8,850.90	8,850.90	8,850.90	8,850.90	13,074.58	13,074.58	13,074.58	8,510.18		
2. EARTHWORKS																
Excavation (Mechanized)	73.90	219.23	146.57	86.10	86.10	113.70	113.70	113.70	118.98	118.98	110.67	148.33	129.50	116.99		
Excavation (Manual)	214.81	195.28	205.05	119.50	119.50	176.00	176.00	176.00	176.00	176.00	234.35	234.35	234.35	174.53		
Backfill (Manual)	107.40	97.64	102.52	86.10	86.10	132.00	132.00	132.00	91.52	91.52	162.00	281.34	221.67	149.06		
Backfill (Mechanize)	53.57	53.57	53.57	833.00	833.00	113.70	113.70	113.70	473.35	473.35	148.02	178.07	163.05	130.64		
Embankment (Manual)	139.09	139.09	139.09	95.60	95.60	95.60	95.60	95.60	95.60	95.60	189.83	233.87	211.85	200.76		
Embankment (Mechanized)	81.34	130.47	105.91	1,140.95	833.00	495.50	495.50	495.50	684.25	684.25	178.07	178.07	178.07	318.87		
3. OTHER WORKS																
Rubble Masonry	3,723.95	2,712.74	3,218.35	4,134.10	4,134.10	4,390.80	4,390.80	4,390.80	3,487.44	3,487.44	6,537.20	6,537.20	6,537.20	4,600.06		
Gravel Fill / Bedding	1,206.89	1,206.89	1,206.89	1,449.20	1,449.20	1,639.00	1,639.00	1,639.00	1,544.10	1,544.10	1,251.00	1,229.37	1,240.19	1,245.61		
Boulder Fill	1,691.15	1,691.15	1,691.15	2,897.30	2,897.30	1,523.80	1,523.80	1,523.80	1,523.80	1,523.80	745.51	1,875.39	1,310.45	1,668.41		
Grouted Riprap	1,970.47	1,970.47	1,970.47	3,903.60	3,903.60	3,047.85	3,047.85	3,047.85	3,191.45	3,191.45	7,126.60	5,725.44	6,426.02	3,910.29		
Dry Riprap	2,641.05	2,641.05	2,641.05	2,880.60	2,880.60	2,500.00	2,500.00	2,500.00	2,500.00	2,500.00	1,875.39	1,875.39	1,875.39	2,125.88		

Table E1-4 Cost Distribution of Civil Works

No.	CODE	REGION	Irrigation Management Office (IMO) and Regional Irrigation Office (RIO)	NIS	FIRMED-UP SERVICE AREA, 2008 (ha)	Category	TOTAL					MAJOR ACTIVITIES		
							LABOR	%	MATERIALS	%	EQUIPMENT		%	TOTAL
1	0101			Ladag Vintar	2,286	3	74.09	32.0%	108.82	47.0%	48.82	21.0%	231.54	Canalization & Structures, 2,400psi Concrete Canal Lining
2	0102			Dingras	1,004	3	24.30	32.0%	35.69	47.0%	15.95	21.0%	75.93	Canalization & Structures, Roads
3	0103			Madangnan Area	2,933	1	88.39	36.0%	120.31	49.0%	36.83	15.0%	245.54	Diversion Dam, Canalization, Structures, & Roads
4	0104			Solsóna Area	1,340	3	34.81	32.0%	51.13	47.0%	22.85	21.0%	108.79	Canalization & Structures, 2,400psi Concrete Canal Lining
5	0105	R-1		Labuganon Area	1,470	2	22.24	32.0%	13.90	20.0%	33.36	48.0%	68.50	Drainage Improvement, Canalization, Concrete Canal Lining & Structures
6	0106			Papa Area	2,337	3	50.18	32.0%	73.71	47.0%	32.93	21.0%	156.82	Canalization & Structures, 2,400psi Concrete Canal Lining
7	0107			Sta. Lucia - Candón	1,423	3	18.12	32.0%	26.62	47.0%	11.89	21.0%	56.64	Canalization & Structures, 2,400psi Concrete Canal Lining
8	0108			Tagudin	1,236	3	32.58	32.0%	47.86	47.0%	21.38	21.0%	101.82	Canalization & Structures, 2,400psi Concrete Canal Lining
9	0109			Amburayan	3,414	3	35.11	32.0%	51.56	47.0%	23.04	21.0%	108.71	Canalization & Structures, 2,400psi Concrete Canal Lining
10	0110			San Fabian	2,026	1	33.58	36.0%	45.70	49.0%	13.99	15.0%	93.27	Diversion Dam, Canalization, Structures, & Roads
11	0111			Dumulooc	1,232	1	30.09	36.0%	40.96	49.0%	12.54	15.0%	83.59	Diversion Dam, Canalization, Structures, & Roads
12	0301	R-3		Pampang-Bataan	3,564	3	59.23	32.0%	86.99	47.0%	38.87	21.0%	185.09	Diversion Dam Repair, Canalization Concrete Lining, Structures, Drainage & Roads
13	0401			Sta. Cruz	2,185	3	26.18	32.0%	38.45	47.0%	17.18	21.0%	81.81	Canalization & Structures, 2,400psi Concrete Canal Lining
14	0402	R-4		Dumecaa	1,839	3	41.20	32.0%	60.51	47.0%	27.04	21.0%	128.74	Canalization & Structures, 2,400psi Concrete Canal Lining
15	0403			Maligao	3,014	3	67.36	32.0%	98.93	47.0%	44.20	21.0%	210.49	Canalization & Structures, 2,400psi Concrete Canal Lining
16	0602			Suaga	2,454	1	70.80	36.0%	96.37	49.0%	29.50	15.0%	196.68	Diversion Dam, Canalization, Structures, & Roads
17	0603			Aganan	4,467	3	110.72	32.0%	182.62	47.0%	72.86	21.0%	346.00	Canalization & Structures, 2,400psi Concrete Canal Lining
18	0604	R-6		Sta. Barbara	3,063	1	62.37	36.0%	84.89	49.0%	25.99	15.0%	173.24	Diversion Dam, Canalization, Structures, & Roads
19	0606			Pangipian	1,169	1	26.90	36.0%	36.61	49.0%	11.21	15.0%	74.71	Diversion Dam, Canalization, Structures, & Roads
22	1001	R-10		Manupali	1,600	1	38.54	35.8%	52.85	49.1%	16.19	15.0%	107.58	Diversion Dam, Canalization, Structures, & Roads
23	1002	R-10		Palangui	11,415	3	196.68	32.0%	288.87	47.0%	129.07	21.0%	614.62	Canalization, Structures, Concrete Canal Lining (2,400psi), Service/Access Road Repair
24	1003	R-10		Muleta	1,800	4	33.56	29.1%	44.74	38.8%	36.91	32.0%	115.21	Roads Rehabilitation and Drainage Improvement
23	1101	R-11		Mal	2,635	3	53.06	42.8%	51.07	41.2%	19.86	16.0%	124.00	Canalization & Structures, Roads
24	1102			Padada	2,842	3	65.82	34.2%	79.84	41.5%	46.71	24.3%	192.37	Canalization & Structures, Roads
25	1201			Lambayang	11,355	3	157.92	32.0%	231.95	47.0%	103.64	21.0%	493.51	Canalization & Structures, Roads
26	1202			Tacurong (Dumaguili)	1,900	3	33.59	32.0%	49.33	47.0%	22.04	21.0%	104.96	Canalization & Structures, Roads
27	1203	R-12		Banga	2,546	3	73.97	32.0%	108.65	47.0%	48.55	21.0%	231.17	Canalization & Structures, Roads
28	1204			Marbel - 1	1,825	3	46.41	32.0%	68.17	47.0%	30.46	21.0%	145.04	Canalization & Structures, Roads
29	1205			Marbel - 2	1,641	3	39.79	32.0%	56.44	47.0%	26.11	21.0%	124.34	Canalization & Structures, Roads
30	1206			Sluay Buayan	1,062	3	18.57	15.8%	73.13	62.1%	26.10	22.2%	117.80	Canalization, Concrete Canal Lining & Structures
33	1301	R-13		Agusan del Norte-Sungao del Norte	2,117		91.38	32.0%	134.21	47.0%	59.97	21.0%	285.55	Diversion Dam Repair, Canalization Concrete Lining, Structures, Drainage & Roads
34	1302	R-13		Agusan del Sur	2,540	2	72.14	32.4%	43.18	19.4%	107.18	48.2%	222.50	Drainage Improvement, Canalization, Concrete Canal Lining & Structures
TOTAL							1,829.68		2,566.08		1,212.80		5,608.56	
Distribution in Average Percentage of Labor-Materials-Equipment based on Major Activities														
1	Dam Repair, Canalization Combine Roads												15%	
2	Drainage Improvement, Canalization Concrete Lining & Structure												100%	
3	Canalization Concrete Lining & Structure												100%	
4	Drainage Improvement, Road Rehabilitation, On-Farm Facilities												100%	

Annex E-2

Cost Estimate of IMT Support Facilities

Table E2-1 Unit Cost of IMT Support Facilities

*One (Set) IMT Support Facilities at 1,000 sq meters basically
(Warehouse, Grain Dryer, Fence, Deepwell)*

Cost Items	Sources of Funds		Total
	GOP	LP	
A. Direct Cost			
Materials	0	1,996,500	1,996,500
Labor	0	1,452,000	1,452,000
Equipment	0	181,500	181,500
<i>sub-total A</i>	0	3,630,000	3,630,000
B. Eng'g. & Survey (2%)	0	72,600	72,600
C. Materials Quality Control (1%)	0	36,300	36,300
TOTAL (A + B + C)	0	3,738,900	3,738,900
C. Indirect Cost			
GESA (3.5%)	130,862	0	130,862
Tax (12%)	448,668	0	448,668
Contractors' Profit (10%)	0	373,890	373,890
<i>sub-total D</i>	579,530	373,890	953,420
TOTAL (A + B + C + D)	579,530	4,112,790	4,692,320
add:			
Contingency (5% of A + B + C + D)	28,976	205,640	234,616
GRAND TOTAL	608,506	4,318,430	4,926,935

Factors:

1. Materials: 55% of DC
2. Labor: 40% of DC
3. Equipment: 5% of DC for concrete mixer rental

Table E2-2 Unit Cost of Warehouse Building

Cost Estimate Basis: One (1) Unit Warehouse (WH) PHF (12m X 20m), 240sqm
Floor Area 300 sqm (Warehouse 240sqm & Office 60sqm)

Cost Items	Sources of Funds		Total
	GOP	LP	
A. Direct Cost			
Materials	0	1,100,000	1,100,000
Labor	0	800,000	800,000
Equipment	0	100,000	100,000
<i>sub-total A</i>	<i>0</i>	<i>2,000,000</i>	<i>2,000,000</i>
B. Eng'g. & Survey (2%)	0	40,000	40,000
C. Materials Quality Control (1%)	0	20,000	20,000
TOTAL (A + B +C)		2,060,000	2,060,000
D. Indirect Cost			
GESA (3.5%)	72,100	0	72,100
Tax (12%)	247,200	0	247,200
Contractors' Profit (10%)	0	206,000	206,000
<i>sub-total D</i>	<i>319,300</i>	<i>206,000</i>	<i>525,300</i>
TOTAL (A + B+ C +D)	319,300	2,266,000	2,585,300
add:			
Contingency (5% of A + B + C + D)	15,965	113,300	129,265
GRAND TOTAL	335,265	2,379,300	2,714,565

Factors:

1. Materials: 55% of DC
2. Labor: 40% of DC
3. Equipment: 5% of DC for concrete mixer rental

Table E2-3 Unit Cost of Grain Dryer

*16 m x 20 m (320sqm) Multi Purpose Pavement
Concrete 2,400psi with Reinforcement*

Cost Items	Sources of Funds		Total
	GOP	LP	
A. Direct Cost			
Materials	0	247,500	247,500
Labor	0	180,000	180,000
Equipment	0	22,500	22,500
<i>sub-total A</i>	0	450,000	450,000
B. Eng'g. & Survey (2%)	0	9,000	9,000
C. Materials Quality Control (1%)	0	4,500	4,500
TOTAL (A + B + C)		463,500	463,500
C. Indirect Cost			
GESA (3.5%)	16,223	0	16,223
Tax (12%)	55,620	0	55,620
Contractors' Profit (10%)	0	46,350	46,350
<i>sub-total D</i>	71,843	46,350	118,193
TOTAL (A + B + C + D)	71,843	509,850	581,693
add:			
Contingency (5% of A + B + C + D)	3,592	25,493	29,085
GRAND TOTAL	75,435	535,343	610,777

Factors:

1. Materials: 55% of DC
2. Labor: 40% of DC
3. Equipment: 5% of DC for concrete mixer rental

Table E2-4 Unit Cost of Perimeter Fence

One (1) Unit Perimeter Fence, 3000m

Cost Items	Sources of Funds		Total
	GOP	LP	
A. Direct Cost			
Materials	0	550,000	550,000
Labor	0	400,000	400,000
Equipment	0	50,000	50,000
<i>sub-total A</i>	0	1,000,000	1,000,000
B. Eng'g. & Survey (2%)	0	20,000	20,000
C. Materials Quality Control (1%)	0	10,000	10,000
TOTAL (A + B + C)		1,030,000	1,030,000
D. Indirect Cost			
GESA (3.5%)	36,050	0	36,050
Tax (12%)	123,600	0	123,600
Contractors' Profit (10%)	0	103,000	103,000
<i>sub-total D</i>	159,650	103,000	262,650
TOTAL (A + B + C + D)	159,650	1,133,000	1,292,650
add:			
Contingency (5% of A + B + C + D)	7,983	56,650	64,633
GRAND TOTAL	167,633	1,189,650	1,357,283

Factors:

1. Materials: 55% of DC
2. Labor: 40% of DC
3. Equipment: 5% of DC for concrete mixer rental

Table E2-5 Unit Cost of Potable Water Supply

Cost Estimate Basis: One (1) Unit Hand Pump, Pipes & Drilling

Cost Items	Sources of Funds		Total
	GOP	LP	
A. Direct Cost			
Materials	0	99,000	99,000
Labor	0	72,000	72,000
Equipment	0	9,000	9,000
<i>sub-total A</i>	<i>0</i>	<i>180,000</i>	<i>180,000</i>
B. Eng'g. & Survey (2%)	<i>0</i>	<i>3,600</i>	<i>3,600</i>
C. Materials Quality Control (1%)	<i>0</i>	<i>1,800</i>	<i>1,800</i>
TOTAL (A + B + C)		185,400	185,400
D. Indirect Cost			
GESA (3.5%)	6,489	0	6,489
Tax (12%)	22,248	0	22,248
Contractors' Profit (10%)	0	18,540	18,540
<i>sub-total D</i>	<i>28,737</i>	<i>18,540</i>	<i>47,277</i>
TOTAL (A + B + C + D)	28,737	203,940	232,677
add:			
Contingency (5% of A + B + C + D)	1,437	10,197	11,634
GRAND TOTAL	30,174	214,137	244,311

Factors:

1. Materials: 55% of DC
2. Labor: 40% of DC
3. Equipment: 5% of DC for concrete mixer rental

Annex E-3

Cost of Equipment

Table E3-1
Cost of Construction Equipment by NIS (1/3)

(PnP per unit)

Region	REGION 1											REGION 3	
	0101	0102	0103	0104	0105	0106	0107	0108	0109	0110	0111	Average Region 1	
Code No.	Laoag Vintar	Dingras	Madongan Area	Solsona Area	Labugaon Area	Papa Area	Sta. Lucia-Candon	Tagudin	Amburayan	San Fabian	Dumuloc		
NIS												Porac-Gumain	
Firmed-up Service Area (ha)	2,286	1,004	2,933	1,340	1,470	2,337	1,423	1,253	3,289	2,026	1,232	3,126	
Area Increased with Project (ha)	184	19	2,193	909	741	1,117	0	17	403	1,217	320	1,286	
1) Crane-15 tons	547.40	547.40	547.40	547.40	547.40	547.40	547.40	547.40	602.14	547.00	547.00	636.00	
2) Dozer-140 HP	1,252.00	1,252.00	1,252.00	1,252.00	1,252.00	1,252.00	2,349.84	2,349.84	1,780.18	1,252.00	1,252.00	1,377.00	
3) Dozer-140 HP	1,252.00	1,252.00	1,252.00	1,252.00	1,252.00	1,252.00	2,349.84	2,349.84	1,780.18	1,252.00	1,252.00	1,377.00	
4) Dozer-140 HP	1,252.00	1,252.00	1,252.00	1,252.00	1,252.00	1,252.00	2,349.84	2,349.84	1,780.18	1,252.00	1,252.00	1,377.00	
5) Dozer-140 HP	1,252.00	1,252.00	1,252.00	1,252.00	1,252.00	1,252.00	2,349.84	2,349.84	1,780.18	1,252.00	1,252.00	1,377.00	
6) Backhoe-0.75 m ³	1,538.53	1,538.00	1,538.00	1,538.00	1,538.55	1,538.55	1,027.62	1,027.62	1,538.55	1,538.00	1,538.00	1,692.00	
7) Loader-1.5 m ³	695.41	695.41	695.41	695.41	695.41	695.41	1,182.06	1,182.06	695.41	695.41	695.41	985.00	
8) Grader (80-100 HP)	604.00	604.00	604.00	604.00	604.00	604.00	512.95	512.95	604.00	604.00	604.00	664.00	
9) Compactor-8 tons	617.00	617.00	617.00	617.00	613.00	613.00	613.00	613.00	617.00	617.00	617.00	679.00	
10) Compactor-10 tons	450.63	450.63	450.63	450.63	450.63	450.63	401.58	450.63	450.63	450.63	450.63	496.00	
11) Cargo/Stake Truck (6-7 tons)	340.23	340.23	340.23	340.23	340.23	340.23	401.58	401.58	340.23	340.23	340.23	335.00	
12) Dump Truck (4-6 m ³)	342.25	342.25	342.25	342.25	342.25	342.25	451.78	451.78	342.25	342.25	342.25	376.00	
13) Centrifugal Pump (150 mm)	61.30	61.30	61.30	61.30	61.30	61.30	80.92	80.92	61.30	61.30	61.30	67.00	
14) Centrifugal Pump (100 mm)	43.55	43.55	43.55	43.55	43.55	43.55	57.48	57.48	43.55	43.55	43.55	48.00	
15) Concrete Mixer (0.16 m ³)	49.35	49.35	49.35	49.35	49.33	49.33	65.14	65.14	44.41	49.35	49.35	54.00	

Table E3-1

Cost of Construction Equipment by NIS (2/3)

(Php per unit)

Region	REGION 4										REGION 6					REGION 10			Average Region 10							
	0401		0402		0403		Average Region 4		0601		0602		0603		0604		Average Region 6			1001		1002		1003		
	Code No.		Sta. Cruz	Dumacaa	Malatgao				Suague	Aganan	Sta. Barbara	Pangipian	Manupali	Pulangui	Muleta											
NIS																										
Firmed-up Service Area (ha)	2,185	1,839	3,014					2,454	4,467	3,062	1,169	1,800	10,557	1,800												
Area Increased with Project (ha)	277	445	725					17	6	403	157	263	519	431												
1) Crane-15 tons	770.30	770.30	1,163.25	901.28				709.00	664.63	644.63	644.63	675.00	675.00	675.00	675.00	675.00	675.00	665.72	675.00	675.00	675.00	675.00	675.00	675.00	675.00	675.00
2) Dozer-140 HP	1,019.00	1,019.00	1,958.20	1,332.07				1,377.20	1,252.00	1,252.00	1,252.00	1,377.20	2,310.90	1,377.20	1,377.20	1,377.20	1,377.20	1,283.30	1,377.20	1,377.20	1,377.20	1,377.20	1,377.20	1,377.20	1,377.20	1,688.43
3) Dozer-140 HP	1,019.00	1,019.00	1,958.20	1,332.07				1,377.20	1,252.00	1,252.00	1,252.00	1,377.20	2,310.90	1,377.20	1,377.20	1,377.20	1,377.20	1,283.30	1,377.20	1,377.20	1,377.20	1,377.20	1,377.20	1,377.20	1,377.20	1,688.43
4) Dozer-140 HP	1,019.00	1,019.00	1,952.20	1,330.07				1,377.20	1,252.00	1,252.00	1,252.00	1,377.20	2,310.90	1,377.20	1,377.20	1,377.20	1,377.20	1,283.30	1,377.20	1,377.20	1,377.20	1,377.20	1,377.20	1,377.20	1,377.20	1,688.43
5) Dozer-140 HP	1,019.00	1,019.00	1,958.20	1,332.07				1,377.20	1,252.00	1,252.00	1,252.00	1,377.20	2,310.90	1,377.20	1,377.20	1,377.20	1,377.20	1,283.30	1,377.20	1,377.20	1,377.20	1,377.20	1,377.20	1,377.20	1,377.20	1,688.43
6) Backhoe-0.75 m ³	856.00	778.50	1,692.41	1,108.97				856.35	778.50	778.50	905.91	856.35	1,098.85	856.35	856.35	856.35	829.82	856.35	856.35	856.35	856.35	856.35	856.35	856.35	856.35	937.85
7) Loader-1.5 m ³	600.50	600.50	1,238.60	813.20				985.05	695.41	695.41	905.91	985.05	998.30	985.05	985.05	985.05	820.45	985.05	985.05	985.05	985.05	985.05	985.05	985.05	985.05	744.10
8) Grader (80-100 HP)	664.00	604.00	1,735.90	1,001.30				664.40	604.00	604.00	664.40	664.40	887.70	664.40	664.40	664.40	634.20	664.40	664.40	664.40	664.40	664.40	664.40	664.40	664.40	887.70
9) Compactor-8 tons	679.00	617.00	679.00	658.33				678.70	617.00	617.00	678.70	678.70	903.43	678.70	678.70	678.70	647.85	678.70	678.70	678.70	678.70	678.70	678.70	678.70	678.70	498.41
10) Compactor-10 tons	450.00	450.00	678.70	526.23				495.69	450.63	450.63	450.63	495.69	308.50	450.63	450.63	450.63	461.90	450.63	450.63	450.63	450.63	450.63	450.63	450.63	450.63	308.33
11) Cargo/Stake Truck (6-7 tons)	291.00	291.00	334.65	305.55				334.65	304.23	304.23	334.64	334.65	291.00	334.64	334.64	334.64	319.44	334.64	334.64	334.64	334.64	334.64	334.64	334.64	334.64	291.00
12) Dump Truck (4-6 m ³)	342.25	342.25	1,192.16	625.55				376.48	342.25	342.25	376.48	376.48	270.00	376.48	376.48	376.48	359.37	376.48	376.48	376.48	376.48	376.48	376.48	376.48	376.48	213.38
13) Centrifugal Pump (150 mm)	61.30	61.30	67.48	63.36				67.43	61.30	61.30	61.30	67.43	71.85	61.30	61.30	61.30	62.83	61.30	61.30	61.30	61.30	61.30	61.30	61.30	61.30	71.85
14) Centrifugal Pump (100 mm)	67.00	41.65	47.90	52.18				47.90	43.55	43.55	43.55	47.90	47.95	43.55	43.55	43.55	44.64	43.55	43.55	43.55	43.55	43.55	43.55	43.55	43.55	47.93
15) Concrete Mixer (0.16 m ³)	54.00	47.20	54.28	51.83				54.28	49.35	49.35	49.35	54.28	54.30	49.35	49.35	49.35	51.82	49.35	49.35	49.35	49.35	49.35	49.35	49.35	49.35	132.83

Table E3-1

Cost of Construction Equipment by NIS (3/3)

(PhP per unit)

Region	REGION 11			REGION 12							REGION 13			Average Nation Wide
	Code No.	1101	1102	Average Region 11	1201	1202	1203	1204	1205	1206	Average Region 12	1301	Average Region 13	
	NIS	Mal	Padada		Lambayon	Tacurong (Dumaguili)	Banga	Marbel - 1	Marbel - 2	Siluy-Buayan		Cabadbaran - Taguibo		
Firmed-up Service Area (ha)	2,635	2,520.00										2,500		
Area Increased with Project (ha)	135	28										213		
1) Crane-15 tons	547.40	547.40	547.40	547.40	780.00	780.00	710.70	710.70	710.70	710.70	733.80	650.00	650.00	670.19
2) Dozer-140 HP	1,252.00	1,252.00	1,252.00	1,252.00	1,950.00	1,950.00	1,780.18	1,780.18	1,780.18	1,780.18	1,836.79	1,377.20	3,752.55	1,604.26
3) Dozer-140 HP	1,252.00	1,252.00	1,252.00	1,252.00	1,950.00	1,950.00	1,780.18	1,780.18	1,780.18	1,780.18	1,836.79	3,752.55	3,752.55	1,752.72
4) Dozer-140 HP	1,252.00	1,252.00	1,252.00	1,252.00	1,950.00	1,950.00	1,780.18	1,780.18	1,780.18	1,780.18	1,836.79	3,752.55	3,752.55	1,752.47
5) Dozer-140 HP	1,252.00	1,252.00	1,252.00	1,252.00	1,950.00	1,950.00	1,780.18	1,780.18	1,780.18	1,780.18	1,836.79	1,377.20	3,752.55	1,604.26
6) Backhoe-0.75 m ³	1,538.55	1,538.55	1,538.55	1,538.55	855.00	855.00	778.50	778.50	778.50	1,538.55	930.68	856.35	1,865.12	1,230.50
7) Loader-1.5 m ³	734.09	734.09	734.09	734.09	765.00	765.00	895.50	895.50	895.50	734.09	825.10	807.50	734.09	809.58
8) Grader (80-100 HP)	1,578.09	1,578.09	1,578.09	1,578.09	664.00	664.00	604.00	604.00	604.00	604.00	624.00	664.40	896.00	844.62
9) Compactor-8 tons	617.00	617.00	617.00	617.00	678.00	678.00	120.56	120.56	120.56	120.56	306.37	678.70	617.00	583.80
10) Compactor-10 tons	326.04	326.04	326.04	326.04	263.00	263.00	120.56	120.56	120.56	120.56	168.04	300.00	300.00	379.65
11) Cargo/Stake Truck (6-7 tons)	304.23	304.23	304.23	304.23	3,358.00	3,358.00	304.23	304.23	304.23	304.23	1,322.15	334.65	304.23	443.52
12) Dump Truck (4-6 m ³)	270.05	270.05	270.05	270.05	376.00	376.00	270.05	270.05	270.05	342.25	317.40	376.48	342.25	360.41
13) Centrifugal Pump (150 mm)	47.90	47.90	47.90	47.90	68.00	68.00	165.50	165.50	165.50	165.50	133.00	150.00	150.00	82.60
14) Centrifugal Pump (100 mm)	47.90	47.90	47.90	47.90	48.00	48.00	127.35	127.35	127.35	61.30	89.89	47.90	43.55	52.79
15) Concrete Mixer (0.16 m ³)	49.35	49.35	49.35	49.35	54.00	54.00	54.00	54.00	54.00	36.00	69.58	54.28	49.35	64.12

Table E3-2 Indicative Cost of O&M Heavy Equipment (Selected 15 NISS)

Code No.	REGION 1						REGION 3	REGION 4	REGION 6		REGION 10		REGION 12		REGION 13	QTY	UNIT COST (P'000,000)	TOTAL (P'000,000)
	0103 (1)	0104 (2)	0105 (3)	0106 (4)	0110 (5)	0111 (6)			0301 (7)	0403 (8)	0601 (9)	0603 (10)	1002 (11)	1003 (12)				
IMO	ILOCOS NORTE						PANGASINAN		ILOILO-GUIMARAS		BUKIDNON		SULTAN COTABATO-SARANGANI		AGUSAN DEL NORTE-SURIGAO DEL SUB			
NIS	Madongan Area	Solsona Area	Labugaon Area	Papa Area	San Fabian	Dumulooc	Porac-Gumain	Malatgao	Suague	Sta. Barbara	Pulangui	Muleta	Lamba-yaong	Banga	Cabadbaran - Taguibo			
Firmed-up Service Area (ha)	2,933	1,340	1,470	2,337	2,026	1,232	3,126	3,014	2,454	3,062	10,557	1,800	11,355	2,546	2,500			
1) Backhoe, Front-end Wheel (0.5m³)	1				1		1	1		1			1	1	1	9	7.0	63.00
2) Backhoe, Excavator, Crawler (0.7m³)			0				0	0	0	0	0	0	0	0	1	1	7.0	7.00
3) Backhoe, Excavator, Crawler, Swampy, Long (0.7m³)			0				0	0	0	0	0	0	0	0	1	1	11.0	11.00
4) Crane, Crawler (16 ton)			0				0	0	0	0	0	0	0	0	0	0	15.0	0.00
5) Prime Mover, Low Bed Type			0				0	0	0	0	0	0	0	0	0	0	8.0	0.00
6) Front End Loader, Wheel Type, Articulated (1.15m³)			0				0	0	0	0	0	0	0	0	0	0	7.0	0.00
7) Tractor Dozer (65hp)			0				0	0	0	0	0	0	0	0	0	0	16.0	0.00
8) Motor Grader (60hp)			1				1	1	1	1	1	1	1	1	0	6	9.0	54.00
9) Motor Grader (120hp)			0				0	0	0	0	0	0	0	0	0	0	11.0	0.00
10) Dump Truck (6m³)		2			1		1	1	2	2	1	1	1	1	1	11	1.5	16.50
11) Compactor, Vibratory (5 ton)			1				1	1	1	1	1	1	1	1	1	7	5.5	38.50
IMO (Pooling and Detail)		5			2		4	4	5	5	4	4	2	5	35			Phpt90.00
REMARKS																		

Table E3-3 Indicative Cost of O&M Light Equipment (Selected 15 NISSs)

Code No.	REGION 1						REGION 3	REGION 4		REGION 6		REGION 10		REGION 12		REGION 13	TOTAL	UNIT COST (P'000,000)	TOTAL (P'000,000)	
	0103 (1)	0104 (2)	0105 (3)	0106 (4)	0110 (5)	0111 (6)		0301 (7)	0403 (8)	0601 (9)	0603 (10)	1002 (11)	1003 (12)	1201 (13)	1203 (14)					1301 (15)
IMO	ILOCOS NORTE						PANGASINAN		PALAWAN		ILOILO-GUIMARAS		BUKIDNON		SULTAN KUDARAT		SOUTH COTABATO-SURIGAO DEL SUR			
NIS	Madongan Area	Solsong Area	Labugaon Area	Papa Area	San Fabian	Porac-Gumain	Dumacca	Matatgao	Suague	Sta. Barbara	Pulangui	Muleta	Lamba-yaong	Banga	Cabad-baran - Taguibo					
	8,080						5,152	3,014	5,516	12,357			11,355	2,546	2,500					
Firmed-up Service Area (ha)	2,933	1,340	1,470	2,337	2,026	3,126	1,839	3,014	2,454	3,062	10,557	1,800	11,355	2,546	2,500					
1) Pickup, Double Cab, 4 x 4 (.75T)					2	2	2	2	0	0	2	2	3	0	2	15	1.20	18.00		
2) Pickup, Single Cab, 4 x 4 (.75T)					0	0	0	0	0	0	0	0	0	0	0	0	0.90	0.00		
3) Cargo Truck (3-ST)		1			0	0	0	0	1	1	0	1	1	0	1	4	2.50	10.00		
4) Concrete Mixer, 1-Bagger (.16m³)		1			1	1	1	1	1	1	1	1	1	0	1	9	0.15	1.35		
5) Air Compressor (86-125 cfm)		0			1	1	1	1	1	1	1	1	1	0	1	8	0.80	6.40		
6) Welding Machine (cutting & welding)-200 amp.		0			1	1	1	1	1	1	0	1	1	0	1	7	0.60	4.20		
7) Water Pump (4" Diameter) (10cm)		1			1	1	1	1	1	1	1	1	1	1	1	10	0.10	1.00		
8) Motorcycle (125cc)		0			5	2	16	6	34	5	5	23	5	0	5	96	0.15	14.40		
IMO (Pooling and Detail)		3			11	8	22	12	39	10	10	31	1	1	12	149		Php55.35		
REMARKS																				

Table E3-4 Indicative Cost of O&M Instruments (Selected 15 NISSs)

Code No.	REGION 1						REGION 3	REGION 4	REGION 6		REGION 10		REGION 12		REGION 13	QTY	UNIT COST (P'000,000)	TOTAL (P'000,000)
	0103 (1)	0104 (2)	0105 (3)	0106 (4)	0110 (5)	0111 (6)			0301 (7)	0403 (8)	0601 (9)	0603 (10)	1002 (11)	1003 (12)				
IMO	ILOCOS NORTE						PANGASINAN		ILOILO-GUIMARAS		BUKIDNON		SULTAN KUDARAT		AGUSAN DEL NORTE-SURIGAO DEL SUR			
NIS	Madongan Area	Solsona Area	Labugaon Area	Papa Area	San Fabian	Dumulooc	Porac-Gumain	Malatgao	Suague	Sta. Barbara	Pulengui	Muleta	Lamba-yaong	Banga	Cabadbaran-Taguibo			
	8,080						3,258	3,014	5,516	12,357	11,355	2,546	2,500					
Firmed-up Service Area (ha)	2,933	1,340	1,470	2,337	2,026	1,232	3,126	3,014	2,454	3,062	10,557	1,800	11,355	2,546	2,500			
1) Large Current Meter (Torpedo Type)	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	15	0.20	3.00
2) Digital Current Meter (Propeller Type)	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	15	0.30	4.50
3) Evaporation Pan (Dam-1, Field-2)	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	45	0.02	0.88
4) Rainage (Dam-1, Field-2)	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	45	0.02	0.88
5) Global Positioning System (Mapping Capability)	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	15	0.02	0.30
6) Geodetic Survey Instrument (Total Station)	1						1	1	1	1	1	1	1	1	1	9	0.50	4.50
7) Desktop Computer System (2GHZ, Core-2-Duo)	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	15	0.10	1.50
8) LCD Projector (15m)	1						1	1	1	1	1	1	1	1	1	9	0.20	1.80
IMO (Pooling and Detail)	42						22	12	22	22	22	12	12	12	12	168		Php16.95
REMARKS																		

Table E3-5 Indicative Cost of O&M Heavy Equipment (Selected 20 NISS)

Code No.	REGION I										REGION 3			REGION 4			REGION 6			REGION 10			REGION 12			REGION 13		UNIT COST (P'000,000)	QTY	TOTAL COST (P'000,000)
	0101 (1)	0102 (2)	0103 (3)	0104 (4)	0105 (5)	0106 (6)	0110 (7)	0111 (8)	0301 (9)	0402 (10)	0403 (11)	0601 (12)	0603 (13)	1001 (14)	1002 (15)	1003 (16)	1201 (17)	1202 (18)	1203 (19)	1301 (20)	AGUSAN DEL NORTE	SURIGAO DEL SUR	Cababaran - Taguibo							
IMO	ILOCCOS NORTE										PAMPANGA-BATAAN		QUEZON-MARINDO PALAWAN		ILOILO-GUIMARAS			BUKIDNON			SULTAN KUDARAT			COTABAT O-SAPAANGA						
NIS	Lagag Vinar	Dingras	Madongan Area	Sosona Area	Labuagan Area	Papa Area	San Fabian	Dumutoc	Porac-Gurnain	Dumacao	Malatiao	Suague	Sia. Barbara	Manupali	Pulangui	Muleta	Lamba-yaong	Tacurong (Dumaguili)												
Firmed-up Service Area (ha)	2,286	1,004	2,933	1,340	1,470	2,337	2,026	1,232	3,126	1,839	3,014	5,516	14,157	13,116	2,546	2,546	2,500	2,500												
1) Backhoe, Front-end Wheel (0.5m)	1						1		1	1	1	1					1												10	70.00
2) Backhoe, Excavator, Crawler (0.5m)				0					0	0	0	0					0												1	7.00
3) Backhoe, Excavator, Crawler, Swampy, Long (0.7m³)				0					0	0	0	0					0												1	11.00
4) Crane, Crawler (16 ton)				0					0	0	0	0					0												0	0.00
5) Prime Mover, Low Bed Type				0					0	0	0	0					0												0	0.00
6) Front End Loader, Wheel Type, Articulated (1.15m³)				0					0	0	0	0					0												0	7.00
7) Tractor Dozer (85hp)				0					0	0	0	0					0												0	0.00
8) Motor Grader (60hp)				1					1	1	1	1					1												7	63.00
9) Motor Grader (120hp)				0					0	0	0	0					0												0	0.00
10) Dump Truck (6m³)				2				1	1	1	1	2					1												13	19.50
11) Compactor, Vibratory (5 ton)				1					1	1	1	1					1												1	5.50
IMO (Pooling and Detail)				5				2	4	4	4	5					4												40	Php214.50
REMARKS	/1 Pooling of equipment to IMO or Regional Irrigation Office may vary depending on actual situations, factors affecting are as follows: a)dist /2 Motorcycles number of units is based on the approved position at the IMO Level /3 Source: Based on NIA Standard Equipment Requirement by Size of Irrigation System																													

Table E3-7 Indicative Cost of O&M Instruments (Selected 20 NISSs)

Code No.	REGION I										REGION 3		REGION 4			REGION 6			REGION 10			REGION 12			REGION 13		UNIT COST (P'000,000)	QTY	TOTAL (P'000,000)																		
	0101	0102	0103	0104	0105	0106	0110	0111	0301	0402	0403	0601	0603	1001	1002	1003	1201	1202	1203	1301	1301	1301	1301	1301																							
No.	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)	(13)	(14)	(15)	(16)	(17)	(18)	(19)	(20)	(20)	(20)	(20)	(20)	(20)																						
IMO	ILOCOS NORTE																						PAMPANGA-BATAAN		QUEZON-PALAWAN			ILOILO-GUIMARAS			BUKIDNON			SULTAN KUDARAT			COTABATO-SARANGANI		AGUSAN DEL NORTE-SURIGAO DEL SUR		Cabaobara n - Taguibo						
NIS	Laosg Vintar	Dingras	Madongan Area	Solsona Area	Labugaon Area	Papa Area	San Fabian	Dumoloc	Porac-Gumain	Dumaca	Malaga	Sueque	Sta. Barbara	Manupali	Puangui	Muleta	Lamba-yaong	Tacurong (Dumaguili)																													
Firmed-up Service Area (ha)	2,286	1,004	2,933	1,340	1,470	2,337	2,026	1,232	3,126	1,839	3,014	5,516	3,062	1,800	10,557	1,800	11,355	1,761	2,546	2,546	2,500	2,500	2,500	2,500	2,500																						
1) Large Current Meter (Torpedo Type)	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	20	4.00																				
2) Digital Current Meter (Propeller Type)	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	20	6.00																				
3) Evaporation Pan (Dam-1, Field-2)	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	60	0.90																				
4) Rainage (Dam-1, Field-2)	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	60	0.90																				
5) Global Positioning System (Mapping Capability)	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	20	0.40																				
6) Geodetic Survey Instrument (Total Station)	1																						1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	10	5.00	
7) Desktop Computer System (2GHZ, Core-2-Duo)	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	20	2.00																			
8) LCD Projector (15m)	1																						1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	10	2.00
IMO (Pooling and Detail)	62																						22	12	12	22	22	12	12	12	12	12	22	22	32	32	22	22	12	12	12	12	12	12	12	220	Php21.20
REMARKS	/1 Pooling of equipment to IMO or Regional Irrigation Office may vary depending on actual situations, factors affecting are as follows: a) distances of IMO to Regional Office, and b) Island like Malaga RIS in Palawan Island. /2 Motorcycles number of units is based on the approved position at the IMO Level /3 Source: Based on NIA Standard Equipment Requirement by Size of Irrigation System																																														

Table E3-8 Indicative Cost of O&M Heavy Equipment (Selected 25 NISs)

Code No.	REGION I										REGION 3			REGION 4			REGION 6			REGION 10			REGION 11			REGION 12					REGION 13		UNIT COST (P'000,000)	QTY	TOTAL (P'000,000)																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																	
	0101	0102	0103	0104	0105	0106	0108	0109	0110	0111	0301	0402	0403	0601	0602	0603	1001	1002	1003	1101	1201	1202	1203	1204	1301	SOUTH COTABATO - SARANGANI	DAVAO DEL SUR	BUKIDNON	ILOILO-GUIMARAS	PALAWAN	QUEZON - MARINDOQUE	PAMPANGA - BATAAN				PANGASINAN	ILOCOS SUR	LA UNION	ILOCOS NORTE	Labag Vintlar	Dingras	Madongan Area	Solsona Area	Labugaon Area	Papa Area	Taguin	Amburayan	San Fabian	Dumoloc	Porac-Gurnain	Dumaca	Malataga	Suagus	Aganan	Sta. Barbara	Manupati	Puangui	Muleta	Mal	Lamba-yang	Tasung (Dumaguili)	Banga	Marbel - 1	Cabadbaran - Taglibo	SULTAN KUDARAT	ALBUQUERQUE	DEL NORTE - SURIGAO																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																	
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)	(13)	(14)	(15)	(16)	(17)	(18)	(19)	(20)	(21)	(22)	(23)	(24)	(25)																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																											
	2,286	1,004	2,833	1,340	1,470	2,337	1,253	3,289	3,258	3,126	1,839	3,014	2,454	4,467	3,062	1,800	10,557	1,800	2,635	11,355	1,761	2,546	1,856	2,500	2,500	13,116	4,402	2,635	14,157	9,983	3,126	3,258	3,126	1,839	3,014	2,454	4,467	3,062	1,800	10,557	1,800	2,635	11,355	1,761	2,546	1,856	2,500	2,500	13,116	4,402	2,635	14,157	9,983	3,126	3,258	3,126	1,839	3,014	2,454	4,467	3,062	1,800	10,557	1,800	2,635	11,355	1,761	2,546	1,856	2,500	2,500	13,116	4,402	2,635	14,157	9,983	3,126	3,258	3,126	1,839	3,014	2,454	4,467	3,062	1,800	10,557	1,800	2,635	11,355	1,761	2,546	1,856	2,500	2,500	13,116	4,402	2,635	14,157	9,983	3,126	3,258	3,126	1,839	3,014	2,454	4,467	3,062	1,800	10,557	1,800	2,635	11,355	1,761	2,546	1,856	2,500	2,500	13,116	4,402	2,635	14,157	9,983	3,126	3,258	3,126	1,839	3,014	2,454	4,467	3,062	1,800	10,557	1,800	2,635	11,355	1,761	2,546	1,856	2,500	2,500	13,116	4,402	2,635	14,157	9,983	3,126	3,258	3,126	1,839	3,014	2,454	4,467	3,062	1,800	10,557	1,800	2,635	11,355	1,761	2,546	1,856	2,500	2,500	13,116	4,402	2,635	14,157	9,983	3,126	3,258	3,126	1,839	3,014	2,454	4,467	3,062	1,800	10,557	1,800	2,635	11,355	1,761	2,546	1,856	2,500	2,500	13,116	4,402	2,635	14,157	9,983	3,126	3,258	3,126	1,839	3,014	2,454	4,467	3,062	1,800	10,557	1,800	2,635	11,355	1,761	2,546	1,856	2,500	2,500	13,116	4,402	2,635	14,157	9,983	3,126	3,258	3,126	1,839	3,014	2,454	4,467	3,062	1,800	10,557	1,800	2,635	11,355	1,761	2,546	1,856	2,500	2,500	13,116	4,402	2,635	14,157	9,983	3,126	3,258	3,126	1,839	3,014	2,454	4,467	3,062	1,800	10,557	1,800	2,635	11,355	1,761	2,546	1,856	2,500	2,500	13,116	4,402	2,635	14,157	9,983	3,126	3,258	3,126	1,839	3,014	2,454	4,467	3,062	1,800	10,557	1,800	2,635	11,355	1,761	2,546	1,856	2,500	2,500	13,116	4,402	2,635	14,157	9,983	3,126	3,258	3,126	1,839	3,014	2,454	4,467	3,062	1,800	10,557	1,800	2,635	11,355	1,761	2,546	1,856	2,500	2,500	13,116	4,402	2,635	14,157	9,983	3,126	3,258	3,126	1,839	3,014	2,454	4,467	3,062	1,800	10,557	1,800	2,635	11,355	1,761	2,546	1,856	2,500	2,500	13,116	4,402	2,635	14,157	9,983	3,126	3,258	3,126	1,839	3,014	2,454	4,467	3,062	1,800	10,557	1,800	2,635	11,355	1,761	2,546	1,856	2,500	2,500	13,116	4,402	2,635	14,157	9,983	3,126	3,258	3,126	1,839	3,014	2,454	4,467	3,062	1,800	10,557	1,800	2,635	11,355	1,761	2,546	1,856	2,500	2,500	13,116	4,402	2,635	14,157	9,983	3,126	3,258	3,126	1,839	3,014	2,454	4,467	3,062	1,800	10,557	1,800	2,635	11,355	1,761	2,546	1,856	2,500	2,500	13,116	4,402	2,635	14,157	9,983	3,126	3,258	3,126	1,839	3,014	2,454	4,467	3,062	1,800	10,557	1,800	2,635	11,355	1,761	2,546	1,856	2,500	2,500	13,116	4,402	2,635	14,157	9,983	3,126	3,258	3,126	1,839	3,014	2,454	4,467	3,062	1,800	10,557	1,800	2,635	11,355	1,761	2,546	1,856	2,500	2,500	13,116	4,402	2,635	14,157	9,983	3,126	3,258	3,126	1,839	3,014	2,454	4,467	3,062	1,800	10,557	1,800	2,635	11,355	1,761	2,546	1,856	2,500	2,500	13,116	4,402	2,635	14,157	9,983	3,126	3,258	3,126	1,839	3,014	2,454	4,467	3,062	1,800	10,557	1,800	2,635	11,355	1,761	2,546	1,856	2,500	2,500	13,116	4,402	2,635	14,157	9,983	3,126	3,258	3,126	1,839	3,014	2,454	4,467	3,062	1,800	10,557	1,800	2,635	11,355	1,761	2,546	1,856	2,500	2,500	13,116	4,402	2,635	14,157	9,983	3,126	3,258	3,126	1,839	3,014	2,454	4,467	3,062	1,800	10,557	1,800	2,635	11,355	1,761	2,546	1,856	2,500	2,500	13,116	4,402	2,635	14,157	9,983	3,126	3,258	3,126	1,839	3,014	2,454	4,467	3,062	1,800	10,557	1,800	2,635	11,355	1,761	2,546	1,856	2,500	2,500	13,116	4,402	2,635	14,157	9,983	3,126	3,258	3,126	1,839	3,014	2,454	4,467	3,062	1,800	10,557	1,800	2,635	11,355	1,761	2,546	1,856	2,500	2,500	13,116	4,402	2,635	14,157	9,983	3,126	3,258	3,126	1,839	3,014	2,454	4,467	3,062	1,800	10,557	1,800	2,635	11,355	1,761	2,546	1,856	2,500	2,500	13,116	4,402	2,635	14,157	9,983	3,126	3,258	3,126	1,839	3,014	2,454	4,467	3,062	1,800	10,557	1,800	2,635	11,355	1,761	2,546	1,856	2,500	2,500	13,116	4,402	2,635	14,157	9,983	3,126	3,258	3,126	1,839	3,014	2,454	4,467	3,062	1,800	10,557	1,800	2,635	11,355	1,761	2,546	1,856	2,500	2,500	13,116	4,402	2,635	14,157	9,983	3,126	3,258	3,126	1,839	3,014	2,454	4,467	3,062	1,800	10,557	1,800	2,635	11,355	1,761	2,546	1,856	2,500	2,500	13,116	4,402	2,635	14,157	9,983	3,126	3,258	3,126	1,839	3,014	2,454	4,467	3,062	1,800	10,557	1,800	2,635	11,355	1,761	2,546	1,856	2,500	2,500	13,116	4,402	2,635	14,157	9,983	3,126	3,258	3,126	1,839	3,014	2,454	4,467	3,062	1,800	10,557	1,800	2,635	11,355	1,761	2,546	1,856	2,500	2,500	13,116	4,402	2,635	14,157	9,983	3,126	3,258	3,126	1,839	3,014	2,454	4,467	3,062	1,800	10,557	1,800	2,635	11,355	1,761	2,546	1,856	2,500	2,500	13,116	4,402	2,635	14,157	9,983	3,126	3,258	3,126	1,839	3,014	2,454	4,467	3,062	1,800	10,557	1,800	2,635	11,355	1,761	2,546	1,856	2,500	2,500	13,116	4,402	2,635	14,157	9,983	3,126	3,258	3,126	1,839	3,014	2,454	4,467	3,062	1,800	10,557	1,800	2,635	11,355	1,761	2,546	1,856	2,500	2,500	13,116	4,402	2,635	14,157	9,983	3,126	3,258	3,126	1,839	3,014	2,454	4,467	3,062	1,800	10,557	1,800	2,635	11,355	1,761	2,546	1,856	2,500	2,500	13,116	4,402	2,635	14,157	9,983	3,126	3,258	3,126	1,839	3,014	2,454	4,467	3,062	1,800	10,557	1,800	2,635	11,355	1,761	2,546	1,856	2,500	2,500	13,116	4,402	2,635	14,157	9,983	3,126	3,258	3,126	1,839	3,014	2,454	4,467	3,062	1,800	10,557	1,800	2,635	11,355	1,761	2,546	1,856	2,500	2,500	13,116	4,402	2,635	14,157	9,983	3,126	3,258	3,126	1,839	3,014	2,454	4,467	3,062	1,800	10,557	1,800	2,635	11,355	1,761	2,546	1,856	2,500	2,500	13,116	4,402	2,635	14,157	9,983	3,126	3,258	3,126	1,839	3,014	2,454	4,467	3,062	1,800	10,557	1,800	2,635	11,355	1,761	2,546	1,856	2,500	2,500	13,116	4,402	2,635	14,157	9,983	3,126	3,258	3,126	1,839	3,014	2,454	4,467	3,062	1,800	10,557	1,800	2,635	11,355	1,761	2,546	1,856	2,500	2,500	13,116	4,402	2,635	14,157	9,983	3,126	3,258	3,126	1,839	3,014	2,454	4,467	3,062	1,800	10,557	1,800	2,635	11,355	1,761	2,546	1,856	2,500	2,500	13,116	4,402	2,635	14,157	9,983	3,126	3,258	3,126	1,839	3,014	2,454	4,467	3,062	1,800	10,557	1,800	2,635	11,355	1,761	2,546	1,856	2,500	2,500	13,116	4,402	2,635	14,157	9,983	3,126	3,258	3,126	1,839	3,014	2,454	4,467	3,062	1,800	10,557	1,800	2,635	11,355	1,761	2,546	1,856	2,500	2,500	13,116	4,402	2,635	14,157	9,983

Table E3-9 Indicative Cost of O&M Light Equipment (Selected 25 NISs)

Code No.	REGION I										REGION 3			REGION 4			REGION 6			REGION 10			REGION 11			REGION 12					REGION N 13		UNIT COST (P'000.00)	TOTAL (P'000.00)
	0101	0102	0103	0104	0105	0106	0108	0109	0110	0111	0301	0402	0403	0601	0602	0603	1001	1002	1003	1101	1201	1202	1203	1204	1301	TOTAL	TOTAL							
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)	(13)	(14)	(15)	(16)	(17)	(18)	(19)	(20)	(21)	(22)	(23)	(24)	(25)									
IMO	ILOCOS NORTE										PAMPANGA-BATAAN			QUEZON-PALAWAN			ILOILO-GUIMARAS			BUKIDINON			DAVAO DEL SUR			SULTAN KUDARAT					AGUSAN DEL NORTE-SURIGAO			
NIS	Laag Vintar	Dingras Area	Madongan Area	Solsna Area	Labugason Area	Papa Area	Tagudin	Ambu-rayan	San Fabian	Dumucoc	Porac-Gumain	Dumacaa	Malatgao	Suague	Aganan	Sta. Barbara	Manupali	Pulangui	Muleta	Mal	Lamba-yang	Tacrong (Dumaguil)	Banga	Manbel-1	Caba-baran-Taguibo									
Firmed-up Service Area (ha)	2,286	1,004	2,993	1,340	1,470	2,397	1,253	3,289	2,026	1,232	3,126	1,899	3,014	2,454	4,467	3,062	1,800	10,557	1,800	2,635	11,355	1,761	2,546	1,856	2,500	2,500								
1) Pickup, Double Cab, 4 x 4 (.75T)							1	2	2	2	2	2	2	0	0	0	2	0	0	1	3	0	0	0	2	19	22.80							
2) Pickup, Single Cab, 4 x 4 (.75T)							0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.00							
3) Cargo Truck (3-5T)							1	0	0	0	0	0	0	1	0	0	0	0	0	0	1	0	0	0	1	4	10.00							
4) Concrete Mixer, 1-Bagger (.16m³)							1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	0	0	1	12	1.80							
5) Air Compressor (86-125 cfm)							0	1	1	1	1	1	1	1	1	1	1	1	1	0	1	1	0	0	1	10	8.00							
6) Welding Machine (cutting & welding)-200 amp							0	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	0	0	1	9	5.40							
7) Water Pump (4" Diameter) (10cm)							1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	13	1.30							
8) Motorcycle (125cc)							0	5	5	5	2	16	6	34	34	34	5	5	5	0	23	0	0	0	5	103	15.45							
IMO (Pooling and Detail)							3	11	11	8	22	12	12	39	39	39	10	10	10	4	31	1	1	1	12	170	#####							

/1 Pooling of equipment to IMO or Regional Irrigation Office may vary depending on actual situations, factors affecting are as follows: a) distances of IMO to Regional Office, and b) Island like Malatgao RIS in Palawan Island.

/2 Motorcycles number of units is based on the approved position at the IMO Level

/3 Source: Based on NIA Standard Equipment Requirement by Size of Irrigation System

REMARKS

Table E3-10 Indicative Cost of O&M Instruments (Selected 25 NISs)

Code No.	REGION 1												REGION 11	REGION 12				REGION 13	UNIT COST (P'000,000)	QTY	TOTAL (P'000,000)																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																													
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	0101	0102	0103	0104	0105	0106	0107	0108	0109	0110	0111	0201		0202	0203	0204	0301					0302	0303	0304	0401	0402	0403	0404	0501	0502	0503	0504	0601	0602	0603	0701	0702	0703	0704	0801	0802	0803	0804																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																							
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Annex F
Economic Evaluation

Table F-1 Economic Parity Price of Rice

Commodity Export/Import substitute Product location Quality of product (5% broken)	Rice Imported Thailand 5% broken		
	2009	2010	2011
US\$/mt (World Bank Commodity Prices, April 2009)	446.00	457.00	457.00
FOB Bangkok at current prices (\$/mt)	446.00	457.00	457.00
Quality differential	0.80	0.80	0.80
Adjusted rice price to reflect quality of Philippine rice	356.80	365.60	365.60
Add: Freight and insurance cost to port (\$/mt)	60.00	60.00	60.00
Value at Philippine port	416.80	425.60	425.60
Conversion to Philippine Peso (Php)			
Exchange rate	48.00	48.00	48.00
Value at port (Php/mt)	20,006.40	20,428.80	20,428.80
Add: Port handling charges, storage, and losses 1/	2,700.86	2,700.86	2,700.86
Add: Internal handling/transport costs near port 2/	900.29	919.30	919.30
Value at wholesale market	23,607.55	24,048.96	24,048.96
Less: Transport to local wholesale market 3/	900.00	900.00	900.00
Less: Dealer handling and processing costs 4/	424.94	432.88	432.88
Ex-mill price (Php/mt)	22,282.62	22,716.08	22,716.08
Add: By-product value 5/	2,005.44	2,044.45	2,044.45
Less: Milling cost 6/	601.63	613.33	613.33
Equivalent price of paddy at mill 7/	15,396.17	15,695.67	15,695.67
Less: Transport cost - farmgate to local market/mill 8/	270.00	270.00	270.00
Economic price at farmgate (Php/ton)	15,126.17	15,425.67	15,425.67
Economic price at farmgate (Php/kg)	15.13	15.43	15.43

Price in 2009 US\$; World Bank Commodity Prices, April, 2009.

1/ Port handling charges, storage, and losses (%) assumed a	15%
2/ Internal handling/transport costs near port (%) assumed at	5%
3/ At an average of Php10.00/km at a distance of about 100 km.	
4/ Assumed as percentage of rice value at wholesale market	2%
5/ Assumed as a percentage of ex-mill price	10%
6/ Assumed as a percentage of ex-mill price	3%
7/ Average recovery rate at mill	65%
8/ At an average of Php3.00/km at a distance of about 100 km.	
Standard conversion factor	0.90

Table F-2 Financial Parity Price of Rice

Commodity Export/Import substitute Product location Quality of product (5% broken)	Rice Imported Thailand 5% broken		
	2009	2010	2011
\$/mt (World Bank Commodity Prices, April 2009)	446.00	457.00	457.00
FOB Bangkok at current prices (\$/mt)	446.00	457.00	457.00
Quality differential	0.80	0.80	0.80
Adjusted rice price to reflect quality of Philippine rice	356.80	365.60	365.60
Add: Freight and insurance cost to Philippine port (\$/mt)	60.00	60.00	60.00
Value at port	416.80	425.60	425.60
Conversion to Philippine Peso (Php)			
Exchange rate	48.00	48.00	48.00
Value at port (Php/mt)	20,006.40	20,428.80	20,428.80
Add: Port handling charges, storage, and losses 1/	3,000.96	3,064.32	3,064.32
Add: Internal handling/transport costs near port 2/	1,000.32	1,021.44	1,021.44
Value at wholesale market	24,007.68	24,514.56	24,514.56
Less: Transport to local wholesale market 3/	1,000.00	1,000.00	1,000.00
Less: Dealer handling and processing costs 4/	480.15	490.29	490.29
Ex-mill price (Php/mt)	22,527.53	23,024.27	23,024.27
Add: By-product value 5/	2,252.75	2,302.43	2,302.43
Less: Milling cost 6/	675.83	690.73	690.73
Equivalent price of paddy at mill 7/	15,667.89	16,013.38	16,013.38
Less: Transport cost - farmgate to local market/mill 8/	300.00	300.00	300.00
Financial price at farmgate (Php/mt)	15,367.89	15,713.38	15,713.38
Financial price at farmgate (Php/kg)	15.37	15.71	15.71

Price in 2009 US\$; World Bank Commodity Prices, April, 2009.

1/ Port handling charges, storage, and losses (%) assumed a	15% of value of rice at Philippine port.
2/ Internal handling/transport costs near port (%) assumed at	5% of value of rice at Philippine port.
3/ At an average of Php10.00/km at a distance of about 100 k	1,000
4/ Assumed as percentage of rice value at wholesale market	2%
5/ Assumed as a percentage of ex-mill price	10%
6/ Assumed as a percentage of ex-mill price	3%
7/ Average recovery rate at mill	65%
8/ At an average of Php3.00/km at a distance of about 100 kr	300

Table F-3 Unit Yield and Area based on the data collected from each NIS survey of the JICA (SLRIF) Team

Cod No.	Region	NIS	Firmed-up Service Area (ha)	Present/Without Project Irrigated Area (ha)		Present/Without Project Paddy Yield (ton/ha)		Present/Without Project Paddy Production (ton)		With Project Irrigated Area (ha)		With Project Paddy Yield (ton/ha)		With Project Paddy Production (ton)	
				Wet Season	Dry Season	Wet Season	Dry Season	Wet Season	Dry Season	Wet Season	Dry Season	Wet Season	Dry Season	Wet Season	Dry Season
0101		Laoag Vintar	2,286	2,102	1,257	3.95	3.85	8,303	4,839	2,286	1,480	4.70	4.80	10,744	7,104
0102		Dingras	1,004	985	845	4.20	3.90	4,137	3,296	1,004	850	4.60	4.80	4,618	4,080
0103		Madongan Area	2,933	740	750	4.00	4.20	2,960	3,150	2,933	750	4.30	4.40	12,612	3,300
0104		Solsoma Area	1,340	431	385	3.75	3.85	1,616	1,482	1,340	490	4.50	4.40	6,030	2,156
0105		Labagaon Area	1,470	729	500	4.00	4.40	2,916	2,200	1,470	500	4.00	4.40	5,880	2,200
0106	Resion 1	Papa Area	2,337	1,220	560	4.00	3.90	4,880	2,184	2,337	560	4.20	4.30	9,815	2,408
0107		Sta. Lucia - Candon	1,423	1,423	237	4.40	3.40	6,261	806	1,423	350	4.50	3.90	6,404	1,365
0108		Tagudin	1,253	1,253	1,000	4.35	3.75	5,451	3,750	1,253	1,070	4.95	5.00	6,202	5,350
0109		Amburayan	3,289	3,011	2,513	4.25	4.50	12,797	11,309	3,289	2,520	4.25	4.50	13,978	11,340
0110		San Fabian	2,026	814	1,135	3.70	4.00	3,012	4,540	2,026	1,140	4.00	4.05	8,104	4,617
0111		Dumuloc	1,232	912	613	3.50	3.95	3,192	2,421	1,232	620	4.00	3.95	4,928	2,449
0301	Region 3	Porac-Gumain	3,126	1,817	2,651	3.30	3.70	5,996	9,809	3,126	2,660	3.70	4.10	11,566	10,906
0401		Sta. Cruz	2,185	2,147	2,182	4.75	5.25	10,198	11,456	2,185	2,180	4.75	5.25	10,379	11,445
0402	Region 4	Dumacaa	1,839	1,395	1,423	3.50	4.00	4,883	5,692	1,839	1,430	3.60	4.10	6,620	5,863
0403		Malatgao	3,014	2,289	1,720	3.90	3.10	8,927	5,332	3,014	2,090	4.10	3.95	12,357	8,256
0601		Suague	2,454	2,437	2,324	4.05	4.05	9,870	9,412	2,454	2,450	5.00	5.00	12,270	12,250
0602		Aganan	4,467	4,461	2,000	4.40	4.15	19,628	8,300	4,467	3,110	4.50	4.20	20,102	13,062
0603	Region 6	Sta. Barbara	3,062	2,659	2,500	4.55	4.20	12,098	10,500	3,062	2,580	4.55	4.50	13,932	11,610
0604		Pangiplan	1,169	1,012	1,012	4.75	4.75	4,807	4,807	1,169	1,020	4.90	4.75	5,728	4,945
1001		Manupali	1,800	1,537	1,573	4.00	4.00	6,148	6,292	1,800	1,650	4.05	4.15	7,290	6,848
1002	Region 10	Pulangui	10,557	10,038	9,971	4.70	4.00	41,156	39,884	10,557	9,980	4.70	4.50	49,618	44,910
1003		Mueta	1,800	1,369	1,354	3.90	3.75	5,339	5,078	1,800	1,640	4.10	3.95	7,380	6,478
1101	Region 11	Mal	2,635	2,500	2,406	4.10	4.30	10,250	10,346	2,635	2,410	4.10	4.30	10,804	10,363
1102		Padada	2,520	2,492	2,493	5.70	5.55	14,204	13,836	2,520	2,520	5.70	5.60	14,364	14,112
1201		Lambayong	11,355	7,615	7,182	4.25	3.25	32,364	23,342	11,355	7,200	4.25	3.25	48,259	23,400
1202		Tacurong (Dumaguil)	1,761	1,412	1,386	4.25	3.25	6,001	4,505	1,761	1,400	4.30	3.30	7,572	4,620
1203	Region 12	Banga	2,546	2,505	2,508	3.85	3.45	9,644	8,653	2,546	2,546	4.40	4.20	11,202	10,584
1204		Marbel - 1	1,856	1,812	1,835	4.05	3.65	7,339	6,698	1,856	1,840	4.40	4.00	8,166	7,360
1205		Marbel - 2	1,641	1,630	1,628	4.45	3.80	7,254	6,186	1,641	1,640	4.50	4.20	7,385	6,888
1206		Siluey-Buayan	1,420	1,353	1,399	4.75	4.45	6,427	6,226	1,420	1,400	5.00	4.70	7,100	6,560
1301	Region 13	Cabadbaran - Taguib	2,500	2,287	1,750	3.55	3.75	8,119	6,563	2,500	2,340	4.45	4.20	11,125	9,828
1302		Simulao	2,540	2,540	2,190	3.30	2.80	8,382	6,132	2,540	2,380	3.70	3.90	9,398	9,282
		Grand Total	86,840	70,927	63,282	4.15	3.94	294,558	249,023	86,840	66,770	4.40	4.28	381,933	285,858

Table F-4 Economic Net Income (PHP/ha) [Without]

[Economic] [Without] [Wet / Dry]

Paddy

No.	Cod No.	Region	Irrigation Management Office (IMO) and Regional Irrigation Office (RIO)	Name of NIS	Wet ; Crop 1					Dry ; Crop 2				
					Unit Price ① PHP/ton	Unit Yield ② ton/ha	Gross Income ③=①×② PHP/ha	Production Cost ④ PHP/ha	Net Income ⑤=③-④ PHP/ha	Unit Price ① PHP/ton	Unit Yield ② ton/ha	Gross Income ③=①×② PHP/ha	Production Cost ④ PHP/ha	Net Income ⑤=③-④ PHP/ha
1	0101			Laog Vintar	15,126	3.95	59,748	33,459	26,289	15,126	3.85	58,235	32,612	25,623
2	0102			Dingras	15,126	4.20	63,529	35,576	27,953	15,126	3.90	58,991	33,035	25,956
3	0103		Ilocos Norte	Madongan Area	15,126	4.00	60,504	33,882	26,622	15,126	4.20	63,529	35,576	27,953
4	0104			Solsona Area	15,126	3.75	56,723	31,765	24,958	15,126	3.85	58,235	32,612	25,623
5	0105			Labugaon Area	15,126	4.00	60,504	33,882	26,622	15,126	4.40	66,554	37,270	29,284
6	0106	Region 1		Papa Area	15,126	4.00	60,504	33,882	26,622	15,126	3.90	58,991	33,035	25,956
7	0107		Ilocos Sur	Sta. Lucia - Candon	15,126	4.40	66,554	37,270	29,284	15,126	3.40	51,428	28,800	22,628
8	0108			Tagudin	15,126	4.35	65,798	36,847	28,951	15,126	3.75	56,723	31,765	24,958
9	0109		La Union	Amburayan	15,126	4.25	64,286	36,000	28,286	15,126	4.50	68,067	38,118	29,949
10	0110		Pangasinan	San Fabian	15,126	3.70	55,966	31,341	24,625	15,126	4.00	60,504	33,882	26,622
11	0111			Dumuloc	15,126	3.50	52,941	29,647	23,294	15,126	3.95	59,748	33,459	26,289
12	0301	Region 3	Pampanga-Bataan	Porac-Gumain	15,126	3.30	49,916	27,953	21,963	15,126	3.70	55,966	31,341	24,625
13	0401		Laguna-Rizal	Sta. Cruz	15,126	4.75	71,849	40,235	31,614	15,126	5.25	79,412	44,471	34,941
14	0402	Region 4	Quezon-Marinduque	Dumacaa	15,126	3.50	52,941	29,647	23,294	15,126	4.00	60,504	33,882	26,622
15	0403		Palawan	Maltagao	15,126	3.90	58,991	33,035	25,956	15,126	3.10	46,891	26,259	20,632
16	0601		Iloilo-Guimaras	Suague	15,126	4.05	61,260	34,306	26,954	15,126	4.05	61,260	34,306	26,954
17	0602			Aganan	15,126	4.40	66,554	37,270	29,284	15,126	4.15	62,773	35,153	27,620
18	0603	Region 6		Sta. Barbara	15,126	4.55	68,823	38,541	30,282	15,126	4.20	63,529	35,576	27,953
19	0604		Negros Occidental	Pangiplan	15,126	4.75	71,849	40,235	31,614	15,126	4.75	71,849	40,235	31,614
20	1001			Manupali	15,126	4.00	60,504	33,882	26,622	15,126	4.00	60,504	33,882	26,622
21	1002	Region 10	Bukidnon	Pulangui	15,126	4.10	62,017	34,730	27,287	15,126	4.00	60,504	33,882	26,622
22	1003			Muleta	15,126	3.90	58,991	33,035	25,956	15,126	3.75	56,723	31,765	24,958
23	1101			Mal	15,126	4.10	62,017	34,730	27,287	15,126	4.30	65,042	36,424	28,618
24	1102	Region 11	Davao Del Sur	Padada	15,126	5.70	86,218	48,282	37,936	15,126	5.55	83,949	47,011	36,938
25	1201			Lambayaong	15,126	4.25	64,286	36,000	28,286	15,126	3.25	49,160	27,530	21,630
26	1202		Sultan Kudarat	Tacurong (Dumaguili)	15,126	4.25	64,286	36,000	28,286	15,126	3.25	49,160	27,530	21,630
27	1203			Banga	15,126	3.85	58,235	32,612	25,623	15,126	3.45	52,185	29,224	22,961
28	1204	Region 12		Marbel - 1	15,126	4.05	61,260	34,306	26,954	15,126	3.65	55,210	30,918	24,292
29	1205			Marbel - 2	15,126	4.45	67,311	37,694	29,617	15,126	3.80	57,479	32,188	25,291
30	1206			Siluyay-Buayan	15,126	4.75	71,849	40,235	31,614	15,126	4.45	67,311	37,694	29,617
31	1301	Region 13	Agusan Del Norte-Surigao Del Norte	Cababaran - Taguibo	15,126	3.55	53,697	30,070	23,627	15,126	3.75	56,723	31,765	24,958
32	1302		Agusan Del Sur	Simulao	15,126	3.30	49,916	27,953	21,963	15,126	2.80	42,353	23,718	18,635

source

1) Unit Price ; Based on the Price in 2009 US\$; World Bank Commodity Prices, April, 2009

2) Unit Yield ; Refer to Table F-3, Based on the data collected from each NIS survey of the JICA (SLRIF) Team

3) Production Cost ; Estimated based on the 56% of gross in come (from the data collected from each NIS survey of the JICA (SLRIF) Team)

Table F-5 Economic Net Income (PHP/ha) [With]

[Economic] [With] [Wet / Dry]

Paddy

Cod No.	Region	Irrigation Management Office (IMO) and Regional Irrigation Office (RIO)	Name of NIS	Wet ; Crop 1				Dry ; Crop 2					
				Unit Price ① PHP/ton	Unit Yield ② ton/ha	Gross Income ③=①×② PHP/ha	Production Cost ④ PHP/ha	Net Income ⑤=③-④ PHP/ha	Unit Price ① PHP/ton	Unit Yield ② ton/ha	Gross Income ③=①×② PHP/ha	Production Cost ④ PHP/ha	Net Income ⑤=③-④ PHP/ha
1 0101			Laoag Vintar	15,126	4.70	71,092	39,812	31,280	15,126	4.80	72,605	40,659	31,946
2 0102			Dingras	15,126	4.60	69,580	38,965	30,615	15,126	4.80	72,605	40,659	31,946
3 0103		Ilocos Norte	Madongan Area	15,126	4.30	65,042	36,424	28,618	15,126	4.40	66,554	37,270	29,284
4 0104			Solsona Area	15,126	4.50	68,067	38,118	29,949	15,126	4.40	66,554	37,270	29,284
5 0105			Labugaon Area	15,126	4.00	60,504	33,882	26,622	15,126	4.40	66,554	37,270	29,284
6 0106	Region 1		Papa Area	15,126	4.20	63,529	35,576	27,953	15,126	4.30	65,042	36,424	28,618
7 0107				Sta. Lucia - Candon	15,126	4.50	68,067	38,118	29,949	15,126	3.90	58,991	33,035
8 0108		Ilocos Sur	Tagudin	15,126	4.95	74,874	41,929	32,945	15,126	5.00	75,630	42,353	33,277
9 0109			Amburayan	15,126	4.25	64,286	36,000	28,286	15,126	4.50	68,067	38,118	29,949
10 0110			San Fabian	15,126	4.00	60,504	33,882	26,622	15,126	4.05	61,260	34,306	26,954
11 0111		Pangasinan	Dumoloc	15,126	4.00	60,504	33,882	26,622	15,126	3.95	59,748	33,459	26,289
12 0301	Region 3	Pampanga-Bataan	Porac-Gumain	15,126	3.70	55,966	31,341	24,625	15,126	4.10	62,017	34,730	27,287
13 0401				Sta. Cruz	15,126	4.75	71,849	40,235	31,614	15,126	5.25	79,412	44,471
14 0402	Region 4	Quezon-Marinduque	Dumacaa	15,126	3.60	54,454	30,494	23,960	15,126	4.10	62,017	34,730	27,287
15 0403				Palawan	15,126	4.10	62,017	34,730	27,287	15,126	3.95	59,748	33,459
16 0601		Iloilo-Guimaras	Suague	15,126	5.00	75,630	42,353	33,277	15,126	5.00	75,630	42,353	33,277
17 0602	Region 6		Aganan	15,126	4.50	68,067	38,118	29,949	15,126	4.20	63,529	35,576	27,953
18 0603				Sta. Barbara	15,126	4.55	68,823	38,541	30,282	15,126	4.50	68,067	38,118
19 0604		Negros Occidental	Pangiplan	15,126	4.90	74,117	41,506	32,611	15,126	4.75	71,849	40,235	31,614
20 1001		Bukidnon	Manupali	15,126	4.05	61,260	34,306	26,954	15,126	4.15	62,773	35,153	27,620
21 1002	Region 10		Pulangui	15,126	4.70	71,092	39,812	31,280	15,126	4.50	68,067	38,118	29,949
22 1003				Muleta	15,126	4.10	62,017	34,730	27,287	15,126	3.95	59,748	33,459
23 1101	Region 11	Davao Del Sur	Mal	15,126	4.10	62,017	34,730	27,287	15,126	4.30	65,042	36,424	28,618
24 1102				Padada	15,126	5.70	86,218	48,282	37,936	15,126	5.60	84,706	47,435
25 1201		Sultan Kudarat	Lambayaong	15,126	4.25	64,286	36,000	28,286	15,126	3.25	49,160	27,530	21,630
26 1202			Tacurong (Dumaguili)	15,126	4.30	65,042	36,424	28,618	15,126	3.30	49,916	27,953	21,963
27 1203	Region 12		Banga	15,126	4.40	66,554	37,270	29,284	15,126	4.20	63,529	35,576	27,953
28 1204			Marbel - 1	15,126	4.40	66,554	37,270	29,284	15,126	4.00	60,504	33,882	26,622
29 1205			Marbel - 2	15,126	4.50	68,067	38,118	29,949	15,126	4.20	63,529	35,576	27,953
30 1206			Siluy-Buayan	15,126	5.00	75,630	42,353	33,277	15,126	4.70	71,092	39,812	31,280
31 1301	Region 13	Agusan Del Sur	Agusan Del Norte-Surigao Del Norte	15,126	4.45	67,311	37,694	29,617	15,126	4.20	63,529	35,576	27,953
32 1302				Simulao	15,126	3.70	55,966	31,341	24,625	15,126	3.90	58,991	33,035

source

1) Unit Price ; Based on the Price in 2009 US\$; World Bank Commodity Prices, April, 2009

2) Unit Yield ; Refer to Table F-3, Based on the data collected from each NIS survey of the JICA (SLRIF) Team

3) Production Cost ; Estimated based on the 56% of gross in come (from the data collected from each NIS survey of the JICA (SLRIF) Team)

Table F-6 Economic Annual Benefits (PHP/year)

[Economic] [Without / With]

Paddy No.	Cod No.	Region	Irrigation Management Office (IMO) and Regional Irrigation Office (RIO)	Name of NIS	Without				With				Annual benefit								
					Area		Net Income		Benefit		Benefit		Benefit		With - Without M.PHP/year	Without Benefit 1.5% M.PHP/year					
					Wet	Dry	Wet	Dry	Wet	Dry	Wet	Dry	Wet	Dry							
					ha	ha	PHP/ha	PHP/ha	M.PHP/year	M.PHP/year	M.PHP/year	M.PHP/year	M.PHP/year	M.PHP/year	M.PHP/year	M.PHP/year					
1	0101			Laoag Vintar	2,102	1,257	26,289	25,623	55.26	32.21	87.47	1.31	2,286	1,480	31,946	31,946	118.79	31.32	1.31		
2	0102			Dingras	985	845	27,953	25,956	27.53	21.93	49.46	0.74	1,004	850	30,615	31,946	57.89	8.43	0.74		
3	0103			Madongan Area	740	750	26,622	27,953	19.70	20.96	40.66	0.61	2,933	750	28,618	29,284	105.90	65.24	0.61		
4	0104			Solsonga Area	431	385	24,958	25,623	10.76	9.86	20.62	0.31	1,340	490	29,949	29,284	40.13	14.35	54.48	33.86	0.31
5	0105			Labuagon Area	729	500	26,622	29,284	19.41	14.64	34.05	0.51	1,470	500	26,622	29,284	39.13	14.64	53.77	19.72	0.51
6	0106	Region 1		Papa Area	1,220	560	26,622	25,956	32.48	14.54	47.02	0.71	2,337	560	27,953	28,618	65.33	16.03	81.36	34.34	0.71
7	0107			Sta. Lucia - Candon	1,423	237	29,284	22,628	41.67	5.36	47.03	0.70	1,423	350	29,949	25,956	42.62	9.08	51.70	4.67	0.70
8	0108			Tagudin	1,253	1,000	28,951	24,958	36.28	24.96	61.24	0.91	1,253	1,070	32,945	33,277	41.28	35.61	76.89	15.65	0.91
9	0109			Amburayan	3,011	2,513	28,286	29,949	85.17	75.26	160.43	2.41	3,289	2,520	32,945	29,949	93.03	75.47	168.50	8.07	2.41
10	0110			San Fabian	814	1,135	24,625	26,622	20.04	30.22	50.26	0.75	2,026	1,140	26,622	26,954	53.94	30.73	84.67	34.41	0.75
11	0111			Pangasinan	912	613	23,294	26,289	21.24	16.12	37.36	0.56	1,232	620	26,622	26,289	32.80	16.30	49.10	11.74	0.56
12	0301	Region 3		Porac-Gumain	1,817	2,651	21,963	24,625	39.91	65.28	105.19	1.58	3,126	2,660	24,625	27,287	76.98	72.58	149.56	44.37	1.58
13	0401			Laguna-Rizal	2,147	2,182	31,614	34,941	67.88	76.24	144.12	2.16	2,185	2,180	31,614	34,941	69.08	76.17	145.25	1.13	2.16
14	0402	Region 4		Quezon-Marinduque	1,395	1,423	23,294	26,622	32.50	37.88	70.38	1.06	1,839	1,430	23,960	27,287	44.06	39.02	83.08	12.70	1.06
15	0403			Palawan	2,289	1,720	25,956	20,632	59.41	35.49	94.90	1.42	3,014	2,090	27,287	26,289	82.24	54.94	137.18	42.28	1.42
16	0601			Malatago	2,437	2,324	26,954	26,954	65.69	62.64	128.33	1.92	2,454	2,450	33,277	33,277	81.66	81.53	163.19	34.86	1.92
17	0802	Region 6		Aganan	4,461	2,000	29,284	27,620	130.64	55.24	185.88	2.79	4,467	3,110	29,949	27,953	133.78	86.93	220.71	34.83	2.79
18	0803			Sta. Barbara	2,659	2,500	30,282	27,953	80.52	69.88	150.40	2.26	3,062	2,580	30,282	29,949	92.72	77.27	169.99	19.59	2.26
19	0804			Pangiplan	1,012	1,012	31,614	31,614	31.99	31.99	63.98	0.96	1,169	1,020	32,611	31,614	38.12	32.25	70.37	6.39	0.96
20	1001			Manupali	1,537	1,573	26,622	26,622	40.92	41.88	82.80	1.24	1,800	1,650	26,954	27,620	48.52	45.57	94.09	11.29	1.24
21	1002	Region 10		Pulangui	10,038	9,971	27,287	26,622	273.91	265.45	539.36	8.09	10,557	9,980	31,280	29,949	330.22	298.89	629.11	89.75	8.09
22	1003			Muleta	1,369	1,354	25,956	24,958	35.53	33.79	69.32	1.04	1,800	1,640	27,287	26,289	49.12	43.11	92.23	22.91	1.04
23	1101			Mal	2,500	2,406	27,287	28,618	68.22	68.85	137.07	2.05	2,635	2,410	27,287	28,618	71.90	68.97	140.87	3.80	2.05
24	1102	Region 11		Padada	2,492	2,493	37,936	36,938	94.54	92.09	186.63	2.80	2,520	2,520	37,936	37,271	95.60	93.92	189.52	2.89	2.80
25	1201			Lambayaong	7,615	7,182	28,286	21,630	215.40	155.35	370.75	5.56	11,355	7,200	28,286	21,630	321.19	155.74	476.93	106.18	5.56
26	1202			Tacurong (Dumaguil)	1,412	1,386	25,286	21,630	39.94	29.98	69.92	1.05	1,761	1,400	28,618	21,963	50.40	30.75	81.15	11.23	1.05
27	1203			Banga	2,505	2,508	25,623	22,961	64.19	57.59	121.78	1.82	2,546	2,520	29,284	27,953	74.56	70.44	145.00	23.22	1.82
28	1204	Region 12		Marbel - 1	1,812	1,835	26,954	24,292	46.84	44.58	93.42	1.40	1,856	1,840	29,284	26,622	54.35	48.98	103.33	9.91	1.40
29	1205			Marbel - 2	1,630	1,628	29,617	25,291	48.28	41.17	89.45	1.34	1,641	1,640	29,949	27,953	49.15	45.84	94.99	5.54	1.34
30	1206			Siluyay-Buayan	1,353	1,399	31,614	29,617	42.77	41.43	84.20	1.26	1,420	1,400	33,277	31,963	47.25	43.79	91.04	6.84	1.26
31	1301	Region 13		Agusan Del Norte-Sungbo Del Norte	2,287	1,750	23,627	24,958	54.03	43.68	97.71	1.46	2,500	2,340	29,617	27,953	74.04	65.41	139.45	41.74	1.46
32	1302			Agusan Del Sur	2,540	2,190	21,963	18,635	55.79	40.81	96.60	1.45	2,540	2,380	24,625	25,956	62.55	61.78	124.33	27.73	1.45
					70,927	63,282					3,617.79	54.23	86,840	66,770			4,444.42	826.63	54.23		

source

1) Area ; Refer to Table F-3, Based on the data collected from each NIS survey of the JICA (SLRIF) Team

2) Net Income ; Table F-2, F-3 Economic Net Income (PHP/ha)

3) Benefit Without 1.5% ; Table F-7 Economic Annual Benefits without 1.5% (PHP/year)

Table F-7 Economic Annual Benefits without 1.5% (PHP/year)

[Economic] [Without] [Wet / Dry]

Paddy Cod No.	Region	Irrigation Management Office (IMO) and Regional Irrigation Office (RIO)	Name of NIS	Wet : Crop 1										Dry : Crop 2										Annual Benefit Without 1.5% M.PHP/year					
				Unit Price ① PHP/ton	Unit Yield ② ton/ha	Gross Income ③=①×② PHP/ha	Production Cost ④ PHP/ha	Net Income ⑤=③-④ PHP/ha	Area ⑦ ha	Benefit Without 1.5% ⑧=⑥×⑦ M.PHP/year	Unit Price ⑩ PHP/ton	Unit Yield ⑪ ton/ha	Gross Income ⑬=⑩×⑪ PHP/ha	Production Cost ⑭ PHP/ha	Net Income ⑮=⑬-⑭ PHP/ha	Area ⑰ ha	Benefit Without 1.5% ⑱=⑯×⑰ M.PHP/year												
																		⑥=⑤×1.5% PHP/ha	⑨=⑧×1.5% PHP/ha	⑫=⑪×1.5% PHP/ha	⑲=⑱×1.5% M.PHP/year								
1	0101		Laoag Vintar	15,126	3.95	59,748	33,459	26,289	394	2,102	0.83	15,126	3.85	58,235	32,612	25,623	384	1,257	0.48	1.31									
2	0102		Dingras	15,126	4.20	63,529	35,576	27,953	419	985	0.41	15,126	3.90	58,991	33,035	25,956	389	845	0.33	0.74									
3	0103		Madangan Area	15,126	4.00	60,504	33,882	26,622	399	740	0.30	15,126	4.20	63,529	35,576	27,953	419	750	0.31	0.61									
4	0104		Solsona Area	15,126	3.75	56,723	31,765	24,958	374	431	0.16	15,126	3.85	58,235	32,612	25,623	384	385	0.15	0.31									
5	0105		Labugana Area	15,126	4.00	60,504	33,882	26,622	399	729	0.29	15,126	4.40	66,554	37,270	29,284	439	500	0.22	0.51									
6	0106	Region 1	Papa Area	15,126	4.00	60,504	33,882	26,622	399	1,220	0.49	15,126	3.90	58,991	33,035	25,956	389	560	0.22	0.71									
7	0107		Sta. Lucia - Candan	15,126	4.40	66,554	37,270	29,284	439	1,423	0.62	15,126	3.40	51,428	28,800	22,628	339	237	0.08	0.70									
8	0108		Tagudin	15,126	4.35	65,798	36,847	28,951	434	1,253	0.54	15,126	3.75	56,723	31,765	24,958	374	1,000	0.37	0.91									
9	0109		Amburayan	15,126	4.25	64,286	36,000	28,286	424	3,011	1.28	15,126	4.50	68,067	38,118	29,949	449	2,513	1.13	2.41									
10	0110		San Fabian	15,126	3.70	55,966	31,341	24,625	369	814	0.30	15,126	4.00	60,504	33,882	26,622	399	1,135	0.45	0.75									
11	0111		Dumoloc	15,126	3.50	52,941	29,647	23,294	349	912	0.32	15,126	3.95	59,748	33,459	26,289	394	613	0.24	0.56									
12	0301	Region 3	Pampanga-Bataan	15,126	3.30	49,916	27,953	21,963	329	1,817	0.60	15,126	3.70	55,966	31,341	24,625	369	2,651	0.98	1.58									
13	0401	Region 4	Laguna-Rizal	15,126	4.75	71,849	40,235	31,614	474	2,147	1.02	15,126	5.25	79,412	44,471	34,941	524	2,182	1.14	2.16									
14	0402		Quezon-Marinduque	15,126	3.50	52,941	29,647	23,294	349	1,395	0.49	15,126	4.00	60,504	33,882	26,622	399	1,423	0.57	1.06									
15	0403		Palawan	15,126	3.90	58,991	33,035	25,956	389	2,289	0.89	15,126	3.10	46,891	26,259	20,632	309	1,720	0.53	1.42									
16	0601		Sague	15,126	4.05	61,260	34,306	26,954	404	2,437	0.98	15,126	4.05	61,260	34,306	26,954	404	2,324	0.94	1.92									
17	0602	Region 6	Aganan	15,126	4.40	66,554	37,270	29,284	439	4,461	1.96	15,126	4.15	62,773	35,153	27,620	414	2,000	0.83	2.79									
18	0603		Sta. Barbara	15,126	4.55	68,823	38,541	30,282	454	2,659	1.21	15,126	4.20	63,529	35,576	27,953	419	2,500	1.05	2.26									
19	0604		Panglipan	15,126	4.75	71,849	40,235	31,614	474	1,012	0.48	15,126	4.75	71,849	40,235	31,614	474	1,012	0.48	0.96									
20	1001		Manupali	15,126	4.00	60,504	33,882	26,622	399	1,537	0.61	15,126	4.00	60,504	33,882	26,622	399	1,573	0.63	1.24									
21	1002	Region 10	Pulangui	15,126	4.10	62,017	34,730	27,287	409	10,038	4.11	15,126	4.00	60,504	33,882	26,622	399	9,971	3.98	8.09									
22	1101		Muleta	15,126	3.90	58,991	33,035	25,956	389	1,369	0.53	15,126	3.75	56,723	31,765	24,958	374	1,354	0.51	1.04									
23	1102		Mal	15,126	4.10	62,017	34,730	27,287	409	2,500	1.02	15,126	4.30	65,042	36,424	28,618	429	2,406	1.03	2.05									
24	1201	Region 11	Padada	15,126	5.70	86,218	48,282	37,936	569	2,492	1.42	15,126	5.55	83,949	47,011	36,938	554	2,483	1.36	2.80									
25	1202		Lambayaong	15,126	4.25	64,286	36,000	28,286	424	7,615	3.23	15,126	3.25	49,160	27,530	21,630	324	7,182	2.33	5.56									
26	1203		Tucrong (Dumaguil)	15,126	4.25	64,286	36,000	28,286	424	1,412	0.60	15,126	3.25	49,160	27,530	21,630	324	1,386	0.45	1.05									
27	1204	Region 12	Banga	15,126	3.85	58,235	32,612	25,623	384	2,505	0.96	15,126	3.45	52,185	29,224	22,961	344	2,508	0.86	1.82									
28	1205		Marbel - 1	15,126	4.05	61,260	34,306	26,954	404	1,812	0.73	15,126	3.65	55,210	30,918	24,292	364	1,835	0.67	1.40									
29	1206		Marbel - 2	15,126	4.45	67,311	37,694	29,617	444	1,630	0.72	15,126	3.80	57,479	32,188	25,291	379	1,628	0.62	1.34									
30	1206		Silvay-Buayan	15,126	4.75	71,849	40,235	31,614	474	1,353	0.64	15,126	4.45	67,311	37,694	29,617	444	1,399	0.62	1.26									
31	1301	Region 13	Agusan Del Norte-Surigao Del Norte	15,126	3.55	53,697	30,070	23,627	354	2,287	0.81	15,126	3.75	56,723	31,765	24,958	374	1,750	0.65	1.46									
32	1302		Agusan Del Sur	15,126	3.30	49,916	27,953	21,963	329	2,540	0.84	15,126	2.80	42,353	23,718	18,635	280	2,190	0.61	1.45									
Grand Total														29.39												24.84		54.23	

source

1) Unit Price : Based on the Price in 2009 US\$. World Bank Commodity Prices, April, 2009

2) Unit Yield : Refer to Table F-3. Based on the data collected from each NIS survey of the JICA (SLRIF) Team

3) Production Cost : Table F-4 Economic Net Income (PHP/ha)

4) Area : Refer to Table F-3. Based on the data collected from each NIS survey of the JICA (SLRIF) Team

Table F-9 Project Evaluation (EIRR) List of All each NIS

Summary

No.	Cod No.	Region	Name of NIS	Firmed-up Service Area (ha)		Average Size (ha/no)	EIRR				B/C Ratio	NPV (M. PHP)	
				Area (ha)	Region Total		Base	Sensitivity					
							Case-1	Case-2	Case-3				
1	0101		Laoag Vintar	2,286			18.1%	16.3%	14.8%	1.21	31	No. 23	
2	0102		Dingras	1,004			19.7%	17.8%	16.2%	1.32	17	No. 18	
3	0103		Madongan Area	2,933			26.0%	23.6%	21.1%	1.68	110	No. 9	
4	0104		Solsona Area	1,340			29.8%	27.0%	24.2%	1.92	67	No. 3	
5	0105		Labugaon Area	1,470			29.8%	26.8%	23.8%	1.86	46	No. 2	
6	0106	Resion 1	Papa Area	2,337			23.1%	20.9%	18.7%	1.50	54	No. 14	
7	0107		Sta. Lucia - Candon	1,423			17.8%	16.1%	14.5%	1.18	8	No. 24	
8	0108		Tagudin	1,253			22.6%	20.5%	18.5%	1.51	35	No. 15	
9	0109		Amburayan	3,289			26.3%	23.5%	20.9%	1.67	61	No. 8	
10	0110		San Fabian	2,026			39.7%	35.6%	31.6%	2.37	95	No. 1	
11	0111		Dumuloc	1,232	20,593	1,872	18.6%	16.8%	15.1%	1.23	14	No. 21	
12	0301	Region 3	Porac-Gumain	3,126	3,126	3,126	28.4%	25.6%	22.9%	1.82	110	No. 5	
13	0401		Sta. Cruz	2,185			27.0%	24.1%	21.5%	1.75	49	No. 6	
14	0402	Region 4	Dumacaa	1,839			16.9%	15.4%	13.9%	1.13	12	No. 29	
15	0403		Malatgao	3,014	7,038	2,346	23.7%	21.4%	19.2%	1.55	81	No. 12	
16	0601		Suague	2,454			26.3%	23.8%	21.3%	1.74	96	No. 7	
17	0602		Aganan	4,467			17.3%	15.8%	14.3%	1.16	37	No. 27	
18	0603	Region 6	Sta. Barbara	3,062			23.2%	21.0%	18.8%	1.54	65	No. 13	
19	0604		Pangiplan	1,169	11,152	2,788	21.1%	19.2%	17.3%	1.42	21	No. 16	
20	1001		Manupali	1,800			20.6%	18.7%	16.9%	1.38	29	No. 17	
21	1002	Region 10	Pulangui	10,557			25.8%	23.3%	20.9%	1.69	304	No. 10	
22	1003		Muleta	1,800	14,157	4,719	25.6%	23.2%	20.7%	1.67	55	No. 11	
23	1101	Region 11	Mal	2,635			19.5%	17.7%	16.0%	1.31	28	No. 19	
24	1102		Padada	2,520	5,155	2,578	17.4%	16.0%	14.6%	1.18	23	No. 26	
25	1201		Lambayaong	11,355			28.7%	25.8%	22.9%	1.80	299	No. 4	
26	1202		Tacurong (Dumaguil)	1,761			18.9%	17.2%	15.5%	1.26	20	No. 20	
27	1203	Region 12	Banga	2,546			17.1%	15.6%	14.1%	1.15	23	No. 28	
28	1204		Marbel - 1	1,856			16.1%	14.7%	13.4%	1.08	8	No. 30	
29	1205		Marbel - 2	1,641			15.4%	14.1%	12.9%	1.03	3	No. 32	
30	1206		Siluy-Buayan	1,420	20,579	3,430	15.7%	14.4%	13.1%	1.05	4	No. 31	
31	1301	Region 13	Cabadbaran - Taguibo	2,500			18.5%	16.8%	15.2%	1.24	43	No. 22	
32	1302		Simulao	2,540	5,040	2,520	17.6%	16.0%	14.5%	1.18	27	No. 25	
Grand Total				86,840	86,840	2,714							
							ave	22.3%	20.2%	20.0%	18.1%	1.46	59

note

1) Evaluation period 50 years, discount rate 15% p.a.

2) EIRR Sensitivity

Case-1: Cost 10% up

Case-2: Benefit 10% down

Case-3: Cost 10% up + Benefit 10% down

Annex G

Budget Analysis

Annex G

BUSGET ANALYSIS

Financial Balance Projection of NIA Office after SLRIF

1. Introduction

This preliminary study on the financial balance projection aims to clarify the change of future financial status after implementation of SLRIF (32 NISs in 8 regions) and to propose countermeasures to ensure the financial balance sustainability.

Financial balance in this study is assumed to be the difference between annual total income and annual total O&M cost. Income source comprises (a) irrigation service fee (ISF) collected from IAs, and (b) miscellaneous operation income (MOI) consisting of service revenues of rental equipment and pump operation, bank interest, etc. While O&M costs include (a) personnel service cost (PS cost) and miscellaneous and other operating expenses (MOOE). The projection has been done at the 2009 constant price level.

This projection is an indicative one without consideration of MOI in NIA central office and NIA's management fee (5%) of the contract for construction of civil works because of the difficulty to estimate the portion of them to be affected to the financial balance only for 32 NISs of SLRIF.

2. Projection of Income for NIA

2.1 Irrigation Service Fee (ISF)

2.1.1 Assumption for projection of ISF collection

- (a) Current index is set based on 5-year average from 2004 to 2008.
- (b) Conversion rate of ISF between kind and cash is 1.0 cavan (50 kg) = PhP 15.
- (c) Possible cropping area for the 3rd crop is assumed to be 35% of the dry season cropping area after completion of SLRIF.
- (d) Farmed-up service area (FUSA) of each NIS is used to estimate the irrigation service area. Total area of FUSA for SLRIF (32 NISs) is 86,840 ha.
- (e) Crop intensity (CI) at present and after completion of SLRIF is assumed to be the following.

Crop Intensity by NIS of SLRIF

Current Cropping Intensity	After completion of SLRIF	2 years after completion of SLRIF
CI < 50 %	75%	95%
50 % < CI < 75 %	85%	95%
75 % < CI	95%	95%

- (f) Collection efficiency (CE) of ISF at present and after completion of SLRIF is assumed to be the following table.

Collection Efficiency

Current CE	After completion of SLRIF	2 years after completion of SLRIF
CE < 30 %	60%	85%
30 % < CE < 60 %	75%	85%
60 % < CE	85%	85%

- (g) Current ISF rate is set at PhP 2 cav/ha for the wet season cropping and RhP 3 cav/ha for the dry season cropping. It is assumed that this rate will be continued even after the completion of rehabilitation works under SLRIF. However, in the case of Ilocos Nur IMO in Region 1 (including 6 NISs of SLRIF), current ISF rate is PhP 1.5 cav/ha per year based O&M contract done several years ago. It is assumed that ISF rate for Ilocos Nur IMO will be adjusted to be the same rate as other regions in near future.

2.1.2 Projection of ISF amount to be collected

Total amount of ISF after completion of SLRIF (32 NISs) is estimated based on current ISF rate at NIS level in 2 cases, i.e. (a) 2 crop cultivation and (b) 3 crop cultivation. Irrigation area for the 3rd crop is assumed as 35 % of irrigation area for the 2nd crop in the dry season.

Total amount of ISF by Region is shown in Table H-1 (1) attached. Details of the estimate by short-listed NIS are shown in Table H-1 (2) attached. The following tables summarize the results of estimate

2 crop cultivation case (2 time paddy)

Region	ISF collected or to be collected (PhP million)		
	Current Status	After completion of SLRIF	2 years after completion of SLRIF
1	10.2	28.4	38.3
3	6.1	9.1	9.5
4	11.8	18.9	21.3
6	12.5	26.6	33.1
10	29.7	41.0	42.9
11	13.9	15.6	15.6
12	40.6	56.0	62.3
13	8.5	13.0	15.3
Total	133.2	208.7	238.2

3 crop cultivation case (2 time paddy and other crops)

Region	ISF collected or to be collected (PhP million)		
	Current Status	After completion of SLRIF	2 years after completion of SLRIF
1	10.2	38.7	55.0
3	6.1	13.8	15.1
4	11.8	28.4	34.1
6	12.5	28.4	53.3
10	29.7	61.3	68.6
11	13.9	23.4	25.0
12	40.6	83.2	99.7
13	8.5	19.6	24.4
Total	133.2	307.9	375.3

2.2 Miscellaneous Operation Income (MOI)

Actual miscellaneous operation income (MOI) by Regional Irrigation Office (RIO) related to SLRIF for 3 years (from 2006 to 2008) is examined. For the projection of income of NIA from 32 NISs in this evaluation, MOI of the Central Office is not considered due to difficulty to assume accurately. While MOI of the short-listed 32 NISs for SLRIF is estimated by allocating the average MOI of RIO above based on area proportion of NIS against total area under RIO. Actual amount of MOI for SLRIF is estimated as shown below. It is assumed that these figures will not be changed after 2008 onward.

Actual Miscellaneous Operation Income

Region	Actual Regional Income of RIO (PhP)			Area of short-listed NIS		Actual Income for short-listed NIS Area (PhP)			
	2006	2007	2008	Ratio (%)	Area (ha)	2006	2007	2008	Average
1	981,341	983,495	513,694	44.9	20,593	440,622	441,589	230,648	370,953
3	9,955,103	11,612,729	10,491,558	5.2	3,126	517,665	603,862	545,561	555,696
4	1,782,417	4,909,351	2,663,435	16.2	7,038	288,930	795,806	431,743	505,493
6	2,402,071	1,524,856	1,316,655	22.8	11,153	548,633	348,277	300,724	399,211
10	957,511	920,031	1,900,426	69.7	14,157	667,385	641,262	1,324,597	877,748
11	2,972,737	1,155,121	6,690,464	17.4	5,155	517,256	200,991	1,164,141	627,463
12	4,764,226	1,503,485	1,709,115	34.4	20,579	1,638,894	517,199	587,935	914,676
13	864,103	1,800,992	1,298,702	25.6	5,040	221,210	461,054	332,468	338,244
Total					86,841	4,840,596	4,010,039	4,917,817	4,589,484

3. Projection on O&M Expenditure

3.1 Current O&M Cost

Actual O&M cost for 32 NISs of SLRIF for recent 5 years (from 2004 to 2008) is estimated at PhP1,436/ha on average, ranging by NIS between PhP149/ha and PhP3,412/ha as shown in Table H-2 attached. Current PS cost for 32 NISs accounts for 83% of the total O&M cost, while only 17% for MOOE. In the ADB study on ISF in 2000, proper amount of O&M cost was recommended to be PhP2,300/ha (equivalent to PhP3,450/ha in 2009 price level), and PS cost accounted for 40% of total O&M cost.

3.2 Personnel Service Cost after Completion of Rationalization Plan

Following the GOP policy to double the salary level of government officials, Rationalization Plan of NIA mentioned to increase staff salary by 100% in 5 years. Current PS cost of 32 NISs is estimated at PhP1,192/ha. Therefore, PS cost after completion of the Rationalization Plan is estimated at PhP2,384/ha (= PhP1,192/ha x 2) at the 2009 price level.

In July 2009, NIA has finalized the up-dating of staffing pattern under Rationalization Plan. In accordance with this, current PS cost for SLRIF including the Central Office and 8 RIO is estimated at about PhP100 million/year, or equivalent to PhP1,152/ha, without base-up. Accordingly, future PS cost after 100% base-up, is estimated at PhP2,304/ha (= PhP1,152/ha x 2) at 2009 price level. The above two figures are almost the same level. For the projection in this study, PS cost of PhP2,384/ha is adopted as a future figure at the 2009 price level.

The details of the estimate are shown in Table H-3 attached.

3.3 Miscellaneous and Other Operating Expenses

Current miscellaneous and other operating expenses (MOOE) for 32 NISs is estimated at PhP244/ha. In the projection, MOOE is assumed to be required from the 4th year after commencement of rehabilitation works of NIS.

MOOE after the completion of SLRIF is also estimated at PhP276/ha at the 2009 price level with assumptions that (a) Maximum amount of MOOE is 2% of average rehabilitation cost of PhP69,000/ha (SLRIF) by NIS, and (b) MOOE becomes necessary after completion of rehabilitation works.

Assumption of MOOE after completion of Rehabilitation for SLRIF

Year after completion of SLRIF	MOOE (% of full MOOE)	MOOE (PhP / ha)
1st	0	0
2nd	0	0
3rd	20	276
4th	50	690
5th	100	1,380

3.4 Total O&M Cost

O&M cost is estimated at NIS level and summarized as shown below. The details are shown in Table H-4 attached.

Projection of O&M Cost of 32 NISs for SLRIF

Region	O&M Cost (PhP. million)		
	Current	After completion of SLRIF	5 years after completion of SLRIF
1	24.0	49.1	77.5
3	10.7	7.5	11.8
4	10.4	16.8	26.5
6	11.3	26.6	42.0
10	21.9	33.8	53.3
11	4.3	12.3	19.4
12	31.0	49.1	77.5
13	7.2	12.0	19.0
Total	124.7	207.0	326.9

4. Financial Balance Projection

4.1 General

Financial balance (income-cost balance) after completion of rehabilitation works under SLRIF (32 NIS) is examined based on the following conditions.

- (1) For the base estimate, conditions are (a) future ISF collection efficiency (%) is improved after the completion of SLRIF, and (b) future ISF rate is the same as the current rate, or 2 cav./ha for the wet season cropping and 3 cav./ha for the dry season cropping.

But for the Ilocos Norte IMO in Region 1, present ISF rate of 1.5 cav./ha per year will be continued in the case of base estimate.

- (2) For the base estimate, future O&M cost is assumed that (a) PS cost is constant, and (b) MOOE will be increased to meet the necessary O&M works.
- (3) For the projection of alternative cases, combination of (a) adjustment of ISF for the Ilocos Norte IMO in Region 1 so as to be the same as other regions, (b) PS cost is doubled in 5 years, and/or (c) 3 cropping (35% of 2nd cropping area) is examined.

4.2 Financial Balance Projection

The five (5) alternative cases for projection are examined for comparison with assumptions below.

Case	Income			O&M Cost		Cropping per Year
	ISF Efficiency	ISF rate for Reigon-1	MOI	PS Cost	MOOE	
1	Increase after SLRIF	Constant (1.5 cav/ha/y)	Constant (same as 2009)	Constant (same as 2009)	Increase after SLRIF	2 crop harvest
2	Increase after SLRIF	Increased (2~3 cav/ha)	Constant (same as 2009)	Constant (same as 2009)	Increase after SLRIF	2 crop harvest
3	Increase after SLRIF	Constant (1.5 cav/ha/y)	Constant (same as 2009)	100% Increase in 5 Years	Increase after SLRIF	2 crop harvest
4	Increase after SLRIF	Increased (2~3 cav/ha)	Constant (same as 2009)	100% Increase in 5 Years	Increase after SLRIF	2 crop harvest
5	Increase after SLRIF	Increased (2~3 cav/ha)	Constant (same as 2009)	100% Increase in 5 Years	Increase after SLRIF	3 crop harvest

Results of the projection of financial balance of NIA Office after SLRIF is shown in Table H-5 attached and summarized below.

(1) Case-1 projection (Table H-5 (1))

(PS no change, ISF in Ilocos Norte no change, 2 crop harvest)

Item (Sum of 32 NISs)	Financial situation (PhP million per year)		
	Current situation	Just after completion of SLRIF	5 years after completion of SLRIF (and onward)
Total Income	138.0	206.2	243.5
Total O&M cost	124.7	109.4	229.3
Balance	13.3	96.8	14.2

Five years after the completion of SLRIF, total income from 32 NISs will increase by PhP 105.5 million annually from PhP 138.0 million to PhP 243.5 million. Therefore MOOE of O&M cost can increase by PhP 104.6 million annually from PhP 124.7 million to PhP 229.3 million.

As shown in Table H-5 (1), financial balance of the short-listed NISs of Region 1 (Ilocos Norte IMO) is continuously deficit status even after completion of SLRIF.

(2) Case-2 projection (Table H-5 (2))

(PS no change, ISF in Ilocos Norte adjusted, 2 crop harvest)

Item (Sum of 32 NISs)	Financial situation (PhP million per year)		
	Current situation	Just after completion of SLRIF	5 years after completion of SLRIF (and onward)
Total Income	138.0	222.5	266.9
Total O&M cost	124.7	109.4	229.3
Balance	13.3	113.1	37.6

In this case, ISF collection rate at the Ilocos Norte IMO in Region 1 is adjusted from present rate of 1.5 cav./ha/year to 2 cav./ha for the wet season cropping and 3 cav./ha for the dry season cropping. This adjustment will contribute to increase annual income by PhP 23.4 million annually.

(PS cost doubled, ISF in Ilocos Norte no change, 2 crop harvest)

Item (Sum of 32 NISs)	Financial situation (PhP million per year)		
	Current situation	Just after completion of SLRIF	5 years after completion of SLRIF (and onward)
Total Income	138.0	206.2	243.5
Total O&M cost	124.7	218.8	338.7
Balance	13.3	-12.6	-95.2

This is the case to adjust personnel cost (PS) to be double of present rate in 5 years. Other conditions are the same as Case-1. This case will cause a big shortage of fund (PhP -95.2 million) annually.

(4) Case-4 projection (Table H-5 (4))*(PS cost doubled, ISF in Ilocos Norte adjusted, 2 crop harvest)*

Item (Sum of 32 NISs)	Financial situation (PhP million per year)		
	Current situation	Just after completion of SLRIF	5 years after completion of SLRIF (and onward)
Total Income	138.0	222.5	266.9
Total O&M cost	124.7	218.8	338.7
Balance	13.3	3.7	-71.8

This is the case to adjust personnel cost (PS) to be double of present rate in 5 years. And ISF rate in the Ilocos Norte IMO in Region 1 is adjusted. This case will cause a big shortage of fund (PhP -71.8 million) annually, though the minus is less than case-3.

(5) Case-2 projection (Table H-5 (5))*(PS no change, ISF in Ilocos Norte adjusted, 3 crop harvest)*

Item (Sum of 32 NISs)	Financial situation (PhP million per year)		
	Current situation	Just after completion of SLRIF	5 years after completion of SLRIF (and onward)
Total Income	138.0	259.8	323.4
Total O&M cost	124.7	207.0	326.8
Balance	13.3	52.8	-3.4

This is the case to improve shortage of fund (case-4) on condition that the third cropping will be introduced at a rate of 35% of second cropping area. Owing to increase income by increased collection efficiency of ISF, the total balance of budget could be remarkably improved.

5. Conclusion and Recommendation**5.1 Conclusion and Recommendation**

- (1) Projection of financial balance of NIA between income (ISF + Miscellaneous income) and O&M cost (Personnel service cost + Miscellaneous and other operating expenses) has been examined for short-listed 32 NISs for SLRIF. Biggest income source is ISF collected. Standard rate of ISF is 2 cav/ha for the wet season cropping and 3 cav/ha for the dry season cropping. However, among regions, the Ilocos Norte IMO in Region 1 only has adopted different ISF rate of 1.5 cav/ha per year, and this low rate of ISF has caused total income low.

Five cases are examined with conditions as follows:

- Case-1 Personnel services cost (PS) no change, ISF rate in the Ilocos Norte no change, 2 crop harvest;
- Case-2 PS no change, ISF rate in the Ilocos Norte adjusted (same as other regions), 2 crop harvest;
- Case-3 PS cost doubled, ISF rate in the Ilocos Norte no change, 2 crop harvest;
- Case-4 PS cost doubled, ISF rate in the Ilocos Norte adjusted, 2 crop harvest; and
- Case-5 PS no change, ISF rate in the Ilocos Norte adjusted, 3 crop harvest.

Results of projection of financial balance are as follows:

Item (Sum of 32 NISs)	Financial situation (PhP million per year)		
	Current situation	Just after completion of SLRIF	5 years after completion of SLRIF (and onward)
Case-1	13.3	96.8	14.2
Case-2	13.3	113.1	37.6
Case-3	13.3	-12.6	-95.2
Case-4	13.3	3.7	-71.8
Case-5	13.3	52.8	-3.4

- (2) On condition that O&M staff salary is not increased (same as present level) and ISF rate in the Ilocos Norte IMO in Region 1 is not adjusted, financial balance is good enough to cover the necessary and increased O&M cost (MOOE) in the future owing to the increase in ISF collection efficiency. As shown in Case-2, when ISF rate in the Ilocos Norte IMO is increased to be the same rate as other regions, financial balance of NIA can improve more (PhP23 million per year).
- (3) If the personnel service cost (PS cost) will be doubled in 5 years as proposed by the government, total O&M cost will be much increased over the income from ISF collection. Without countermeasures to increase income, and of the financial balance of NIA will hamper to maintain irrigation systems properly, without countermeasures to increase income.
- (4) One of possible countermeasures to increase income is an introduction of the 3rd crop cultivation to increase ISF collection efficiency. If the 3rd crop cultivation area will reach to 35% of 2nd crop (dry season crop) cultivation area, the overall financial balance will be improved and sustainable O&M can be realized.

5.2 Recommendation

- (1) It is necessary to examine the financial balance of NIA as a whole on condition that (a) the major rehabilitation projects such as PIDP (the World Bank), ISOEIP (ADB) and SLRIF (JICA) will be implemented, and (b) salary structure of NIA O&M staff will be doubled following the government policy.
- (2) Current ISF rate applied in the Ilocos Norte IMO in Region 1 is too low (1.5 cav/ha per year). It is recommended to change ISF rate in the Ilocos Norte IMO in Region 1 so as to adopted the same rate (2 cav/ha for the wet season cropping and 3 cav/ha for the dry season cropping) as applied to all the other regions at present.
- (3) Detailed water resources development study for the selected NISs which will have a potential for the future water resources development should be promoted with an aim to increase cropping intensity and to promote 3rd crop cultivation.
- (4) To promote the 3rd crop cultivation, intensive farming guidance program by DA should be promoted.
- (4) As the salary increase for O&M staff will affect on the financial balance of NIA seriously, it is recommend to arrange an annual budget by DA to cover the incremental portion of O&M staff salary for NIA to ensure the sustainable O&M by NIA in the future.

Table G-1 (1) Estimation of ISF after Completion of SLRIF for the 32 NISS (Region Base)

Region	Plant Season	Service Area (ha)	Present Status of ISF				After completion of SLRIF				2 years after completion of SLRIF										
			Crop Intensity (%)		Yield (cav/ha)		Collection Efficiency (%)		ISF collected (estimation)		Target Area of ISF		ISF to be collected		ISF to be collected						
			2008	Ave. 5 years	2008	Ave. 5 years	Ave. 5 years	2008	Assumed current CE (%)	Assumed current CE (%)	Areas collected ISF (ha)	ISF rate (cav./ha)	ISF Amount (P. mil.)	FUSA (ha)	Areas to be collected ISF (ha)	ISF rate (cav./ha)	ISF Amount (P. mil.)	FUSA (ha)	Areas to be collected ISF (ha)	ISF rate (cav./ha)	ISF Amount (P. mil.)
1	Wet	20,593	73	73	69	80	21	26	31	1,807	2.0	2.7	17,700	5,504	2.0	8.3	8.3	7,448	2.0	11.2	11.2
	Dry 1	20,593	62	58	58	78	45	42	44	4,927	1.5 or 3	7.5	17,187	12,449	1.5 or 3	20.2	20.2	19,563	1.5 or 3	27.1	27.1
	Dry 2									6,224				24,176	5.0	10.3	38.7	39,127	5.0	55.0	55.0
	Subtotal	20,593								6,734	10.2	10.2	34,887	24,176		28.4	28.4	32,391		38.3	38.3
3	Wet	3,126	69	70	70	64	71	69	68	1,516	2.0	3.3	2,657	2,259	2.0	3.4	3.4	2,970	2.0	3.8	3.8
	Dry 1	3,126	86	77	77	86	79	76	71	1,893	3.0	3.8	2,970	2,524	3.0	5.7	5.7	2,970	3.0	5.7	5.7
	Dry 2									1,485	1.282	6.1	1,485	1,282	5.0	4.7	4.7	1,782	5.0	5.7	5.7
	Subtotal	6,252								3,209	6.1	6.1	7,112	6,045	9.1	13.8	13.8	7,721	9.5	15.1	15.1
4	Wet	7,038	85	83	83	86	79	82	58	3,440	2.0	5.2	6,385	5,045	2.0	7.6	7.6	6,686	2.0	8.5	8.5
	Dry 1	7,038	79	74	74	85	86	60	58	2,937	3.0	6.6	6,385	5,045	3.0	11.4	11.4	6,686	3.0	12.8	12.8
	Dry 2									3,192	2.522	11.8	3,192	2,522	5.0	9.5	9.5	4,012	5.0	12.8	12.8
	Subtotal	14,076								6,377	11.8	11.8	15,962	12,612	18.9	28.4	28.4	17,384	21.3	34.1	34.1
6	Wet	11,153	96	94	93	89	84	45	39	3,907	2.0	5.9	10,995	7,780	2.0	11.7	11.7	10,595	2.0	13.5	13.5
	Dry 1	11,153	83	85	86	92	81	20	34	3,045	3.0	6.6	10,149	6,875	3.0	15.0	15.0	10,595	3.0	19.6	19.6
	Dry 2									5,074	3.438	12.5	5,074	3,438	5.0	12.9	12.9	6,357	5.0	20.3	20.3
	Subtotal	22,306								6,952	12.5	12.5	25,818	18,093	26.6	39.5	39.5	27,548	33.1	53.3	53.3
10	Wet	14,157	79	94	76	81	79	78	70	9,160	2.0	13.7	13,089	11,126	2.0	16.7	16.7	13,449	2.0	17.1	17.1
	Dry 1	14,157	75	93	75	83	76	63	54	7,099	3.0	16.0	13,089	10,820	3.0	24.3	24.3	13,449	3.0	25.7	25.7
	Dry 2									6,545	5.410	29.7	6,545	5,410	5.0	20.3	20.3	8,069	5.0	25.7	25.7
	Subtotal	28,314								16,259	29.7	29.7	32,723	27,355	41.0	61.3	61.3	34,968	42.9	66.6	66.6
11	Wet	5,155	95	97	97	102	97	79	81	4,029	2.0	6.0	4,897	4,163	2.0	6.2	6.2	4,897	2.0	6.2	6.2
	Dry 1	5,155	96	93	93	102	94	84	73	3,479	3.0	7.8	4,897	4,163	3.0	9.4	9.4	4,897	3.0	9.4	9.4
	Dry 2									2,449	2.081	13.9	2,449	2,081	5.0	7.8	7.8	2,938	5.0	9.4	9.4
	Subtotal	10,310								7,509	13.9	13.9	12,243	10,407	15.6	23.4	23.4	12,733	15.6	25.0	25.0
12	Wet	20,579	95	94	94	79	84	82	79	12,724	2.0	19.1	19,550	15,539	2.0	23.3	23.3	19,550	2.0	24.9	24.9
	Dry 1	20,579	91	88	86	74	75	71	67	9,554	3.0	21.5	18,415	14,520	3.0	32.7	32.7	19,550	3.0	37.4	37.4
	Dry 2									9,207	7.260	40.6	9,207	7,260	5.0	27.2	27.2	11,730	5.0	37.4	37.4
	Subtotal	41,158								22,138	40.6	40.6	47,172	37,319	56.0	83.2	83.2	50,830	62.3	99.7	99.7
13	Wet	5,040	88	85	85	69	83	77	53	2,282	2.0	3.4	4,788	3,476	2.0	5.2	5.2	4,788	2.0	6.1	6.1
	Dry 1	5,040	92	88	88	68	71	72	51	2,251	3.0	5.1	4,788	3,476	3.0	7.8	7.8	4,788	3.0	9.2	9.2
	Dry 2									2,394	1.738	8.5	2,394	1,738	5.0	6.5	6.5	2,873	5.0	9.2	9.2
	Subtotal	10,080								4,706	8.5	4,706	4,706	13.0	19.6	19.6	12,449	15.3	24.4	24.4	
Total		153,069								47,040	133.2	133.2	187,886	144,897	208.7	307.9	307.9	202,759	238.2	375.3	375.3

Conversion between kind and cash (Dominant payment is in cash)
 1.0 cav. = Php. 15
 Planted area in Dry 2 season (other crop) =
 50 % of the Dry 1 area, after completion of SLRIF
 60 % of the Dry 1 area, 2 years after completion of SLRIF

Assumption of CE
 (1) Ave. CE < 30 % after completion of SLRIF
 60 % 2 years after completion of SLRIF
 85 %
 (2) 30 % < Ave. CE < 60 % after completion of SLRIF
 75 % 2 years after completion of SLRIF
 85 %
 (2) 60 % < Ave. CE after completion of SLRIF
 85 %

Assumption of yield
 (1) Ave. Yield < 70 cav/ha after completion of SLRIF
 85 cav/ha 2 years after completion of SLRIF
 95 cav/ha
 (2) 75 cav/ha < Ave. Yield < 90 cav/ha after completion of SLRIF
 95 cav/ha
 (3) 90 cav/ha < Ave. Yield after completion of SLRIF
 110 cav/ha

Assumption of IC
 (1) Ave. CI < 50 % after completion of SLRIF
 75 % 2 years after completion of SLRIF
 95 %
 (2) 75 % < Ave. CI < 50 % after completion of SLRIF
 85 % 2 years after completion of SLRIF
 95 %
 (3) 75 % < Ave. CI after completion of SLRIF
 95 %

Table G-1 (2) Estimation of ISF after Completion of SLRIF by NIS

Code No.	Region	Irrigation Management Office (IMO)	NIS	Plant Season	Service Area (ha)	Present Status of ISF						after completion of SLRIF						2 years after completion of SLRIF																	
						Crop Intensity (%)		Yield (cav/ha)		Collection Efficiency (%)		Present Status of ISF collected		Target area for ISF			ISF to be collected (2 crop season)			ISF to be collected (3 crop season)			ISF to be collected (2 crop season)			ISF to be collected (3 crop season)									
						Ave. 5 years	Assumed current CI (%)	Ave. 5 years	2008	Ave. 5 years	2008	Assumed current CE (%)	Areas collected ISF (ha)	ISF rate (cav/ha)	ISF Amount (P. ml.)	CI %	FUSA (ha)	CE (%)	Areas to be collected ISF (ha)	ISF rate (cav/ha)	ISF Amount (P. ml.)	ISF rate (cav/ha)	ISF Amount (P. ml.)	CI %	FUSA (ha)	CE (%)	Areas to be collected ISF (ha)	ISF rate (cav/ha)	ISF Amount (P. ml.)	ISF rate (cav/ha)	ISF Amount (P. ml.)	ISF rate (cav/ha)	ISF Amount (P. ml.)		
0101			Laos Vintar	Wet	2,286	90	90	na	na	na	na	838	1.5	0.9	85	2,172	85	1,652	1.5	1.9	95	2,172	85	1,846	1.5	2.1	95	2,172	85	1,846	1.5	2.1	1.5	2.1	
				Dry 2	2,286	59	61	94	na	63	na	na	na	na	na	na	972	85	1,303	1.5	1.9	95	2,172	85	1,303	1.5	2.1	95	2,172	85	1,303	1.5	2.1	1.5	2.1
0102			Dingras	Wet	1,004	96	96	84	87	na	3	26	239	1.5	0.8	95	954	60	572	1.5	0.6	95	954	85	811	1.5	0.9	95	954	85	811	1.5	0.9	1.5	0.9
				Dry 2	1,004	93	92	92	88	21	na	na	na	na	na	na	477	75	2,786	1.5	1.9	95	2,786	85	2,368	1.5	2.7	95	2,786	85	2,368	1.5	2.7	1.5	2.7
0103			Madongan Area	Wet	2,933	51	46	46	79	na	na	48	626	1.5	0.7	75	2,200	75	1,650	1.5	1.9	95	2,786	85	2,368	1.5	2.7	95	2,786	85	2,368	1.5	2.7	1.5	2.7
				Dry 2	2,933	51	44	75	71	51	48	na	na	na	na	na	1,100	85	1,139	1.5	1.1	95	1,273	85	1,082	1.5	1.2	95	1,273	85	1,082	1.5	1.2	1.5	1.2
0104			Solsona Area	Wet	1,340	89	63	81	75	na	na	76	714	1.5	0.8	85	1,139	85	968	1.5	1.1	95	1,273	85	1,082	1.5	1.2	95	1,273	85	1,082	1.5	1.2	1.5	1.2
				Dry 2	1,340	77	70	73	76	63	76	76	76	76	76	76	570	85	1,397	1.5	1.1	95	1,397	85	1,187	1.5	1.3	95	1,397	85	1,187	1.5	1.3	1.5	1.3
0105			Labuagon Area	Wet	1,470	68	57	79	75	na	na	73	608	1.5	0.7	85	1,250	85	1,062	1.5	1.2	95	1,397	85	1,187	1.5	1.3	95	1,397	85	1,187	1.5	1.3	1.5	1.3
				Dry 2	1,470	57	57	72	75	77	73	73	73	73	73	625	85	2,220	1.5	1.2	95	2,220	85	1,887	1.5	2.1	95	2,220	85	1,887	1.5	2.1	1.5	2.1	
0106	Region 1		Papa Area	Wet	2,337	na	na	na	na	na	na	na	na	na	na	na	na	na	na	na	na	na	na	na	na	na	na	na	na	na	na	na	na	na	na
				Dry 2	2,337	35	26	71	73	na	22	22	22	136	1.5	0.2	75	1,753	60	1,082	1.5	1.2	95	2,220	85	1,887	1.5	2.1	95	2,220	85	1,887	1.5	2.1	1.5
0107			Sta. Lucia - Candon	Wet	1,423	100	97	89	87	16	13	184	2.0	0.3	95	1,352	60	811	2.0	1.2	95	1,352	85	1,149	2.0	1.7	95	1,352	85	1,149	2.0	1.7	2.0	1.7	
				Dry 2	1,423	36	35	70	70	36	36	36	36	36	36	36	534	75	400	3.0	1.8	95	1,352	85	1,149	3.0	2.6	95	1,352	85	1,149	3.0	2.6	3.0	2.6
0108			Iloocos Sur	Wet	1,253	na	91	83	na	32	33	363	2.0	0.5	95	1,190	75	883	2.0	1.3	95	1,190	85	1,012	2.0	1.5	95	1,190	85	1,012	2.0	1.5	2.0	1.5	
				Dry 2	1,253	84	80	88	86	39	36	36	36	36	36	36	595	75	446	3.0	2.0	95	1,190	85	1,012	3.0	2.3	95	1,190	85	1,012	3.0	2.3	3.0	2.3
0109			La Union	Wet	3,289	93	88	85	83	25	25	535	2.0	0.8	95	3,125	60	1,875	2.0	2.8	95	3,125	85	2,656	2.0	4.0	95	3,125	85	2,656	2.0	4.0	2.0	4.0	
				Dry 2	3,289	79	79	86	86	25	25	535	3.0	1.4	95	3,125	60	1,875	3.0	4.2	95	3,125	85	2,656	3.0	6.0	95	3,125	85	2,656	3.0	6.0	3.0	6.0	
0110			San Fabian	Wet	2,026	40	40	43	43	43	345	2.0	0.5	75	1,520	75	1,140	2.0	1.7	95	1,925	85	1,636	2.0	2.5	95	1,925	85	1,636	2.0	2.5	2.0	2.5		
				Dry 2	2,026	56	43	79	76	37	37	37	37	37	37	37	760	75	570	3.0	2.6	95	1,925	85	1,636	3.0	3.7	95	1,925	85	1,636	3.0	3.7	3.0	3.7
0111			Dumulooc	Wet	1,232	64	64	70	75	33	48	380	2.0	0.6	85	1,047	75	785	2.0	1.2	95	1,170	85	995	2.0	1.5	95	1,170	85	995	2.0	1.5	2.0	1.5	
				Dry 2	1,232	59	51	79	75	36	43	43	43	267	3.0	0.6	85	1,047	75	785	3.0	1.8	95	1,170	85	995	3.0	2.2	95	1,170	85	995	3.0	2.2	3.0
Subtotal (Region 1)				Wet	20,593	73	69	78	80	21	26	31	1,807	2.0	2.7	17,700	75	5,504	2.0	8.3	95	19,563	85	17,448	2.0	11.2	95	19,563	85	17,448	2.0	11.2	11.2	11.2	
				Dry 2	20,593	62	58	80	78	45	42	44	44	4,927	3.0	7.5	17,187	75	12,449	3.0	20.2	95	19,563	85	16,629	3.0	27.1	95	19,563	85	16,629	3.0	27.1	27.1	27.1
0301	Region 3	Pampanga - Bataan		Wet	3,126	68	70	59	64	71	69	68	1,516	2.0	2.3	34,887	85	2,659	2.0	3.4	95	2,970	85	2,524	2.0	3.8	95	2,970	85	2,524	2.0	3.8	2.0	3.8	
				Dry 2	3,126	86	77	86	79	76	71	71	71	1,693	3.0	3.8	34,887	85	2,970	3.0	5.7	95	2,970	85	2,524	3.0	5.7	95	2,970	85	2,524	3.0	5.7	3.0	5.7
Subtotal (Region 3)				Wet	3,126	69	70	59	64	71	69	69	1,516	2.0	2.3	34,887	85	2,659	2.0	3.4	95	2,970	85	2,524	2.0	3.8	95	2,970	85	2,524	2.0	3.8	2.0	3.8	
				Dry 2	3,126	86	77	86	79	76	71	71	71	1,693	3.0	3.8	34,887	85	2,970	3.0	5.7	95	2,970	85	2,524	3.0	5.7	95	2,970	85	2,524	3.0	5.7	3.0	5.7
0401	Region 4	Laguna - Rizal		Wet	2,185	101	92	95	80	47	34	34	686	2.0	1.0	95	2,076	75	1,557	2.0	2.3	95	2,076	85	1,764	2.0	2.6	95	2,076	85	1,764	2.0	2.6	2.0	2.6
				Dry 2	2,185	101	89	106	105	50	na	na	na	na	na	na	na	na	na	na	na	na	na	na	na	na	na	na	na	na	na	na	na	na	na
0402	Region 4	Quezon - Marikina		Wet	1,839	84	83	85	81	48	48	746	2.0	1.1	95	1,747	75	1,310	2.0	2.0	95	1,747	85	1,485	2.0	2.2	95	1,747	85	1,485	2.0	2.2	2.0	2.2	
				Dry 2	1,839	83	79	86	85	39	44	44	647	3.0	1.5	95	1,747	75	1,310	3.0	2.9	95	1,747	85	1,485	3.0	3.3	95	1,747	85	1,485	3.0	3.3	3.0	3.3
0403	Palawan			Wet	3,014	71	74	74	76	91	90	2,008	2.0	3.0	85	2,562	85	2,178	2.0	3.3	95	2,562	85	2,178	2.0	3.7	95	2,562	85	2,178	2.0	3.7	2.0	3.7	
				Dry 2	3,014	54	55	62	69	91	79	79	1,318	3.0	3.0	85	2,562	85	2,178	3.0	4.9	95	2,562	85	2,178	3.0	5.5	95	2,562	85	2,178	3.0	5.5	3.0	5.5
Subtotal (Region 4)				Wet	7,038	85	83	86	79	62	58	3,440	2.0	5	6,385	2.0	8	5,045	2.0	8	95	6,385	85	5,683	2.0	9	95	6,385	85	5,683	2.0	9	2.0	9	
				Dry 2	7,038	79	74	85	86	60	62	58	2,937	3.0	7	3,182	3.0	11	5,045	3.0	11	95	6,385	85	5,683	3.0	13	95	6,385	85	5,683	3.0	13	3.0	13
Subtotal					14,076							6,377	12	15,962	12,612	19	17,384	19	28	28	21	21	21	21	21	21	21	21	21	21	21	21	21		

Table G-3 Estiamtion of PS Cost after Completion of RATUPLAN for 32 NISS for SLRIF

Region	FUSA area (ha)	RIO		IMO			RIS		Annual Amount at Region Level (RIO+IMO+RIS)		Central Office		Annual Amount including CO cost
		Total of Monthly Salary	Ratio	Annual Amount	Ratio	Total of Monthly Salary	Ratio	Annual Amount	Ratio CO/RIO-IMO	Annual Amount	Annual Amount		
(1)	(2)	(3)	(4)	(5)=(3)(4)x14	(7)	(6)	(7)	(11)=(9)(10)x14	(12)=(5)+(6)+(11)	(13)	(14)=Total(13)	(15)=(12)+(14)	
1		853,653	0.44	5,311,619	0.25	239,762	0.25	1,995,504					
					0.50	270,028	0.50	2,688,028					
					1.00	641,024	1.00	1,125,502					
Sub-total	20,593			5,311,619	0.50	179,626	0.50	5,809,034	24,081,734	0.28	3,239,575	27,321,309	
3		1,146,677	0.11	1,783,720	0.25	298,175	0.25	1,709,148					
	3,126			1,783,720				1,709,148	4,536,480	0.05	610,266	5,146,746	
4		1,078,253	0.21	3,234,759	0.33	197,049	0.33	2,137,352					
					0.50	294,390	0.50	3,048,444					
					0.50	307,445	0.50	2,206,428					
Sub-total	7,038			3,234,759				7,392,224	15,759,390	0.18	2,120,019	17,879,409	
6		836,475	0.33	3,903,550	0.50	325,374	0.50	489,986					
					0.50	290,013	0.50	4,998,686					
								2,789,780					
Sub-total	11,152			3,903,550				8,278,452	16,489,711	0.19	2,218,264	18,707,975	
10		796,685	0.25	2,788,398	0.33	288,535	0.33	1,102,841					
	14,157			2,788,398				1,102,841	5,237,735	0.06	704,602	5,942,337	
11		940,067	0.20	2,632,188	1.00	483,314	1.00						
	5,155			2,632,188				6,766,396	9,398,584	0.10	1,264,336	10,662,920	
12		920,994	0.17	2,148,986	0.50	252,097	0.50	3,531,738					
					1.00	679,925	1.00						
Sub-total	20,579			2,148,986				3,531,738	16,964,353	0.19	2,282,115	19,246,468	
13		685,029	0.10	959,041	0.33	220,987	0.33	451,360					
					0.11	235,770	0.11	1,182,608					
Sub-total	5,040			959,041				1,633,968	3,991,035	0.05	536,891	4,527,926	
Total	86,840			22,762,259				29,457,405	96,459,021	1.00	12,976,068	109,435,089	

Remarks:

- 1) Annual salary payment for PS 14 months
- 2) Assumption of monthly PS cost
Central Office PhP 611,3000 /month
Regions PhP 4,101,4000 /month
- 3) Average PS cost within O&M cost PhP 1,111 /ha/Year
- 4) Average annual O&M cost PhP 1,260 /ha/Year

Table G-4 Projection of Annual O&M Cost (PS cost & MOOE) for NIS at NIS Base

No.	Regional Irrigation Office (RIO)	Irrigation Management Office (IMO)	Code	NIS	FUSA area (ha)	Current Status of O&M Cost per Ha						Projection of O&M cost (PhP/ha)										O&M Cost (PhP million)															
						Amount (PhP/ha)		MOOE		Personnel Cost		O&M cost after SLRIF	Year in Order										Year in Order														
						2008	5-yr ave.	2008	5-yr ave.	2008	5-yr ave.		0	1	2	3	4	5	6	7	8	9	10	0	1	2	3	4	5	6	7	8	9	10			
								%		%																											
1	1	Ilocos Norte	0101	Laoag Vintar	2,286	1,320	1,321	43	77	3	6	97	94	2,384	1,321	1,534	1,746	1,959	2,171	2,384	2,384	2,384	2,660	3,074	3,764	3.02	3.51	3.99	4.48	4.96	5.45	5.45	5.45	6.08	7.03	8.60	
2			0102	Dingras	1,004	1,253	1,325	27	72	2	5	98	95	2,384	1,325	1,536	1,748	1,960	2,172	2,384	2,384	2,384	2,660	3,074	3,764	1.33	1.54	1.76	1.97	2.18	2.39	2.39	2.39	2.67	3.09	3.78	
3			0103	Madongan Area	2,933	0	149	0	4	0	2	100	98	2,384	149	596	1,043	1,490	1,937	2,384	2,384	2,384	2,660	3,074	3,764	0.44	1.75	3.05	4.37	5.68	6.99	6.99	6.99	7.80	9.02	11.04	
4			0104	Solsona Area	1,340	208	167	0	3	0	2	100	98	2,384	167	610	1,054	1,497	1,940	2,384	2,384	2,384	2,660	3,074	3,764	0.22	0.82	1.41	2.01	2.60	3.19	3.19	3.19	3.56	4.12	5.04	
5			0105	Labugaon Area	1,470	206	169	0	3	0	2	100	98	2,384	169	612	1,055	1,498	1,941	2,384	2,384	2,384	2,660	3,074	3,764	0.25	0.90	1.55	2.20	2.85	3.50	3.50	3.50	3.91	4.52	5.53	
6			0106	Papa Area	2,337	321	258	0	5	0	2	100	98	2,384	258	683	1,108	1,533	1,959	2,384	2,384	2,384	2,660	3,074	3,764	0.60	1.60	2.59	3.58	4.58	5.57	5.57	5.57	6.22	7.18	8.80	
7		Ilocos Sur	0107	Sta. Lucia - Candon	1,423	901	768	56	25	6	3	94	97	2,384	768	1,091	1,414	1,737	2,061	2,384	2,384	2,384	2,660	3,074	3,764	1.09	1.55	2.01	2.47	2.93	3.39	3.39	3.39	3.78	4.37	5.36	
8			0108	Tagudin	1,253	901	687	71	43	8	6	92	94	2,384	687	1,026	1,365	1,705	2,044	2,384	2,384	2,384	2,660	3,074	3,764	0.86	1.29	1.71	2.14	2.56	2.99	2.99	2.99	3.33	3.85	4.72	
9		La Union	0109	Amburayan	3,289	3,410	3,332	450	416	13	13	87	87	2,384	3,332	3,142	2,953	2,763	2,573	2,384	2,384	2,384	2,660	3,074	3,764	10.96	10.34	9.71	9.09	8.46	7.84	7.84	7.84	8.75	10.11	12.38	
10			0110	San Fabian	2,026	1,574	1,461	67	73	4	6	96	94	2,384	1,461	1,646	1,830	2,015	2,199	2,384	2,384	2,384	2,660	3,074	3,764	2.96	3.33	3.71	4.08	4.46	4.83	4.83	4.83	5.39	6.23	7.63	
11		Pangasinan	0111	Dumuloc	1,232	1,969	1,858	110	116	6	6	94	94	2,384	1,858	1,863	2,068	2,173	2,279	2,384	2,384	2,384	2,660	3,074	3,764	2.29	2.42	2.55	2.68	2.81	2.94	2.94	2.94	3.28	3.79	4.64	
	Sub-total				20,593																					24.02	29.04	34.05	39.06	44.08	49.09	49.09	49.09	54.77	63.30	77.51	
12	3	Pampanga-Bataan	0301	Porac-Gumain	3,126	4,105	3,412	691	575	17	16	83	84	2,384	3,412	3,206	3,001	2,795	2,589	2,384	2,384	2,384	2,660	3,074	3,764	10.66	10.02	9.38	8.74	8.09	7.45	7.45	7.45	8.31	9.61	11.77	
13	4	Laguna-Rizal	0401	Sta. Cruz	2,185	1,325	1,103	28	28	2	3	98	97	2,384	1,103	1,359	1,615	1,871	2,128	2,384	2,384	2,384	2,660	3,074	3,764	2.41	2.97	3.53	4.09	4.65	5.21	5.21	5.21	5.81	6.72	8.22	
14			0402	Dumacao	1,839	2,521	2,245	180	108	7	4	93	96	2,384	2,245	2,273	2,301	2,328	2,356	2,384	2,384	2,384	2,660	3,074	3,764	4.13	4.18	4.23	4.28	4.33	4.38	4.38	4.38	4.89	5.65	6.92	
15			0403	Palawan	3,014	1,775	1,285	595	280	34	19	66	81	2,384	1,285	1,505	1,725	1,944	2,164	2,384	2,384	2,384	2,660	3,074	3,764	3.87	4.54	5.20	5.86	6.52	7.18	7.18	7.18	8.02	9.26	11.34	
	Sub-total			7,038																					10.41	11.69	12.96	14.23	15.50	16.78	16.78	16.78	18.72	21.63	26.49		
16	6	Iloilo-Guimaras	0601	Suage	2,454	574	641	78	86	14	14	86	86	2,384	641	990	1,338	1,687	2,035	2,384	2,384	2,384	2,660	3,074	3,764	1.57	2.43	3.28	4.14	4.99	5.85	5.85	5.85	6.53	7.54	9.24	
17			0602	Aganan	4,467	902	783	127	106	14	14	86	86	2,384	783	1,103	1,423	1,743	2,064	2,384	2,384	2,384	2,660	3,074	3,764	3.50	4.93	6.36	7.79	9.22	10.65	10.65	11.88	13.73	16.81		
18			0603	Sta. Barbara	3,063	1,020	1,153	112	140	11	12	89	88	2,384	1,153	1,399	1,645	1,891	2,138	2,384	2,384	2,384	2,660	3,074	3,764	3.53	4.28	5.04	5.79	6.55	7.30	7.30	7.30	8.15	9.41	11.53	
19			0604	Negros Occidental	Pangiplan	1,169	2,295	2,340	275	293	12	13	88	87	2,384	2,340	2,349	2,357	2,366	2,375	2,384	2,384	2,384	2,660	3,074	3,764	2.74	2.75	2.76	2.77	2.78	2.79	2.79	2.79	3.11	3.59	4.40
	Sub-total			11,153																					11.34	14.39	17.44	20.49	23.54	26.59	26.59	26.59	29.66	34.28	41.98		
20	10	Bukidnon	1001	Manupali	1,800	2,416	2,310	514	350	21	15	79	85	2,384	2,310	2,325	2,340	2,354	2,369	2,384	2,384	2,384	2,660	3,074	3,764	4.16	4.18	4.21	4.24	4.26	4.29	4.29	4.29	4.79	5.53	6.77	
21			1002	Palangui	10,557	1,638	1,358	486	356	30	26	70	74	2,384	1,358	1,563	1,768	1,973	2,179	2,384	2,384	2,384	2,660	3,074	3,764	14.33	16.50	18.67	20.83	23.00	25.17	25.17	25.17	28.08	32.45	39.73	
22			1003	Muleta	1,800	2,127	1,899	230	237	11	13	89	87	2,384	1,899	1,996	2,093	2,190	2,287	2,384	2,384	2,384	2,660	3,074	3,764	3.42	3.59	3.77	3.94	4.12	4.29	4.29	4.29	4.79	5.53	6.77	
	Sub-total			14,157																					21.91	24.28	26.64	29.01	31.38	33.75	33.75	33.75	37.65	43.52	53.28		
23	11	Davao del Sur	1101	Mal	2,635	878	773	661	530	75	68	25	32	2,384	773	1,095	1,417	1,739	2,062	2,384	2,384	2,384	2,660	3,074	3,764	2.04	2.89	3.73	4.58	5.43	6.28	6.28	6.28	7.01	8.10	9.92	
24			1102	Padada	2,520	1,003	895	536	430	53	47	47	53	2,384	895	1,193	1,490	1,788	2,086	2,384	2,384	2,384	2,660	3,074	3,764	2.26	3.01	3.76	4.51	5.26	6.01	6.01	6.01	6.70	7.75	9.48	
	Sub-total			5,155																					4.29	5.89	7.49	9.09	10.69	12.29	12.29	12.29	13.71	15.85	19.40		
25	12	Sultan Kudarat	1201	Lambayaong	11,355	1,180	1,095	250	265	21	24	79	76	2,384	1,095	1,353	1,611	1,868	2,126	2,384	2,384	2,384	2,660	3,074	3,764	12.44	15.36	18.29	21.21	24.14	27.07	27.07	27.07	30.20	34.90	42.74	
26			1202	Tacurong (Dumaguil)	1,761	845	784	179	190	21	24	79	76	2,384	784	1,104	1,424	1,744	2,064	2,384	2,384	2,384	2,660	3,074	3,764	1.38	1.94	2.51	3.07	3.63	4.20	4.20	4.20	4.68	5.41	6.63	
27			South Cotabato-Sarangani	1203	Banga	2,546	1,918	1,964	854	918	45	47	55	53	2,384	1,964	2,048	2,132	2,216	2,300	2,384	2,384	2,384	2,660	3,074	3,764	5.00	5.21	5.43	5.64	5.86	6.07	6.07	6.07	6.77	7.83	9.58
28				1204	Marbel - 1	1,856	2,504	2,011	993	759	40	37	60	63	2,384	2,011	2,085	2,160	2,235	2,309	2,384	2,384	2,384	2,660	3,074	3,764	3.73	3.87	4.01	4.15	4.29	4.42	4.42	4.42	4.94	5.70	6.99
29				1205	Marbel - 2	1,641	2,477	2,629	1,029	1,022	42	39	58	61	2,384	2,629	2,580	2,531	2,482	2,433	2,384	2,384	2,384	2,660	3,074	3,764	4.31	4.23	4.15	4.07							

Table G-5 (1)

Projection on Financial Balance for 32 NISs for SLRIF

Case-1: (1) PS Cost no change, (2) ISF in Illocos Norte no change (1.5 cav/ha)
 (3) 2 crop harvest

Region	Description	Year in Order											
		0	1	2	3	4	5	6	7	8	9	10	
1	1 FUSA area (ha)	20,593											
	2 Income (PhP million)												
	ISF Income	10.24	13.88	17.52	21.16	24.80	26.62	28.44	33.35	38.26	38.26	38.26	
	Miscellaneous Income	0.37	0.37	0.37	0.37	0.37	0.37	0.37	0.37	0.37	0.37	0.37	
	Sub-total	10.61	14.25	17.89	21.53	25.17	26.99	28.81	33.72	38.63	38.63	38.63	
3 O&M cost (PhP million)	24.02	24.41	24.79	25.18	25.56	25.95	25.95	25.95	31.63	40.16	54.37		
4 Balance (PhP million)	-13.41	-10.16	-6.90	-3.65	-0.39	1.04	2.86	7.77	7.00	-1.53	-15.74		
3	1 FUSA area (ha)	3,126											
	2 Income (PhP million)												
	ISF Income	6.08	6.68	7.28	7.87	8.47	8.77	9.07	9.27	9.47	9.47	9.47	
	Miscellaneous Income	0.56	0.56	0.56	0.56	0.56	0.56	0.56	0.56	0.56	0.56	0.56	
	Sub-total	6.64	7.24	7.83	8.43	9.03	9.32	9.62	9.82	10.02	10.02	10.02	
3 O&M cost (PhP million)	10.66	9.32	7.97	6.63	5.28	3.94	3.94	3.94	4.80	6.10	8.25		
4 Balance (PhP million)	-4.03	-2.08	-0.14	1.80	3.74	5.39	5.68	5.88	5.22	3.93	1.77		
4	1 FUSA area (ha)	7,038											
	2 Income (PhP million)												
	ISF Income	11.77	13.20	14.63	16.06	17.49	18.20	18.92	20.11	21.31	21.31	21.31	
	Miscellaneous Income	0.51	0.51	0.51	0.51	0.51	0.51	0.51	0.51	0.51	0.51	0.51	
	Sub-total	12.27	13.70	15.13	16.56	17.99	18.71	19.42	20.62	21.82	21.82	21.82	
3 O&M cost (PhP million)	10.41	10.10	9.79	9.49	9.18	8.87	8.87	8.87	10.81	13.72	18.58		
4 Balance (PhP million)	1.86	3.60	5.34	7.08	8.82	9.84	10.56	11.75	11.01	8.09	3.24		
6	1 FUSA area (ha)	11,152											
	2 Income (PhP million)												
	ISF Income	12.67	15.57	18.46	21.35	24.25	25.69	27.14	30.46	33.77	33.77	33.77	
	Miscellaneous Income	0.40	0.40	0.40	0.40	0.40	0.40	0.40	0.40	0.40	0.40	0.40	
	Sub-total	13.07	15.96	18.86	21.75	24.65	26.09	27.54	30.86	34.17	34.17	34.17	
3 O&M cost (PhP million)	11.34	11.88	12.42	12.97	13.51	14.05	14.05	14.05	17.13	21.75	29.44		
4 Balance (PhP million)	1.73	4.09	6.44	8.79	11.14	12.04	13.49	16.80	17.04	12.42	4.73		
10	1 FUSA area (ha)	14,157											
	2 Income (PhP million)												
	ISF Income	29.71	31.98	34.24	36.51	38.77	39.90	41.03	41.95	42.87	42.87	42.87	
	Miscellaneous Income	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	
	Sub-total	30.59	32.86	35.12	37.38	39.65	40.78	41.91	42.83	43.75	43.75	43.75	
3 O&M cost (PhP million)	21.91	21.09	20.28	19.47	18.65	17.84	17.84	17.84	21.75	27.61	37.37		
4 Balance (PhP million)	8.68	11.76	14.84	17.92	21.00	22.94	24.07	24.99	22.00	16.14	6.37		
11	1 FUSA area (ha)	5,155											
	2 Income (PhP million)												
	ISF Income	13.87	14.22	14.57	14.92	15.26	15.44	15.61	15.61	15.61	15.61	15.61	
	Miscellaneous Income	0.63	0.63	0.63	0.63	0.63	0.63	0.63	0.63	0.63	0.63	0.63	
	Sub-total	14.50	14.85	15.20	15.54	15.89	16.06	16.24	16.24	16.24	16.24	16.24	
3 O&M cost (PhP million)	4.29	4.73	5.17	5.61	6.05	6.50	6.50	6.50	7.92	10.05	13.61		
4 Balance (PhP million)	10.21	10.12	10.02	9.93	9.84	9.57	9.74	9.74	8.32	6.19	2.63		
12	1 FUSA area (ha)	20,579											
	2 Income (PhP million)												
	ISF Income	40.58	43.66	46.74	49.82	52.90	54.44	55.98	59.15	62.32	62.32	62.32	
	Miscellaneous Income	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	
	Sub-total	41.50	44.58	47.65	50.73	53.81	55.35	56.89	60.06	63.23	63.23	63.23	
3 O&M cost (PhP million)	31.02	30.00	28.98	27.97	26.95	25.93	25.93	25.93	31.61	40.13	54.33		
4 Balance (PhP million)	10.48	14.57	18.67	22.77	26.87	29.42	30.96	34.13	31.62	23.10	8.90		
13	1 FUSA area (ha)	5,040											
	2 Income (PhP million)												
	ISF Income	8.49	9.40	10.31	11.22	12.13	12.58	13.04	14.15	15.26	15.26	15.26	
	Miscellaneous Income	0.34	0.34	0.34	0.34	0.34	0.34	0.34	0.34	0.34	0.34	0.34	
	Sub-total	8.83	9.74	10.65	11.55	12.46	12.92	13.37	14.49	15.60	15.60	15.60	
3 O&M cost (PhP million)	7.17	7.01	6.84	6.68	6.52	6.35	6.35	6.35	7.74	9.83	13.31		
4 Balance (PhP million)	1.65	2.73	3.80	4.87	5.95	6.57	7.02	8.14	7.86	5.77	2.29		
Total (32 NIS)	1 FUSA area (ha)	86,840											
	2 Income (PhP million)												
	ISF Income	133.42	148.58	163.74	178.90	194.06	201.64	209.22	224.04	238.86	238.86	238.86	
	Miscellaneous Income	4.59	4.59	4.59	4.59	4.59	4.59	4.59	4.59	4.59	4.59	4.59	
3 O&M cost (PhP million)	124.70	121.65	118.59	115.53	112.48	109.42	109.42	109.42	133.39	169.34	229.26		
4 Balance (PhP million)	13.30	31.52	49.74	67.96	86.17	96.81	104.39	119.21	110.07	74.11	14.19		

Table G-5 (2)

Projection on Financial Balance for 32 NISs for SLRIF

Case-2: (1) PS Cost no change, (2) ISF in Ilocos Norte adjusted (WS 2 cav/ha, DS 3 cav/ha)
(3) 2 crop harvest

Region	Description	Year in Order											
		0	1	2	3	4	5	6	7	8	9	10	
1	1 FUSA area (ha)	20,593											
	2 Income (PhP million)												
	ISF Income	10.24	17.59	24.94	32.29	39.64	43.31	46.99	54.67	62.36	62.36	62.36	
	Miscellaneous Income	0.37	0.37	0.37	0.37	0.37	0.37	0.37	0.37	0.37	0.37	0.37	
	Sub-total	10.61	17.96	25.31	32.66	40.01	43.69	47.36	55.04	62.73	62.73	62.73	
3 O&M cost (PhP million)	24.02	24.41	24.79	25.18	25.56	25.95	25.95	25.95	25.95	31.63	40.16	54.37	
4 Balance (PhP million)	-13.41	-6.45	0.52	7.48	14.45	17.74	21.41	29.10	31.10	22.57	8.36		
3	1 FUSA area (ha)	3,126											
	2 Income (PhP million)												
	ISF Income	6.08	6.68	7.28	7.87	8.47	8.77	9.07	9.27	9.47	9.47	9.47	
	Miscellaneous Income	0.56	0.56	0.56	0.56	0.56	0.56	0.56	0.56	0.56	0.56	0.56	
	Sub-total	6.64	7.24	7.83	8.43	9.03	9.32	9.62	9.82	10.02	10.02	10.02	
3 O&M cost (PhP million)	10.66	9.32	7.97	6.63	5.28	3.94	3.94	3.94	4.80	6.10	8.25		
4 Balance (PhP million)	-4.03	-2.08	-0.14	1.80	3.74	5.39	5.68	5.88	5.22	3.93	1.77		
4	1 FUSA area (ha)	7,038											
	2 Income (PhP million)												
	ISF Income	11.77	13.20	14.63	16.06	17.49	18.20	18.92	20.11	21.31	21.31	21.31	
	Miscellaneous Income	0.51	0.51	0.51	0.51	0.51	0.51	0.51	0.51	0.51	0.51	0.51	
	Sub-total	12.27	13.70	15.13	16.56	17.99	18.71	19.42	20.62	21.82	21.82	21.82	
3 O&M cost (PhP million)	10.41	10.10	9.79	9.49	9.18	8.87	8.87	8.87	10.81	13.72	18.58		
4 Balance (PhP million)	1.86	3.60	5.34	7.08	8.82	9.84	10.56	11.75	11.01	8.09	3.24		
6	1 FUSA area (ha)	11,152											
	2 Income (PhP million)												
	ISF Income	12.67	15.57	18.46	21.35	24.25	25.69	27.14	30.46	33.77	33.77	33.77	
	Miscellaneous Income	0.40	0.40	0.40	0.40	0.40	0.40	0.40	0.40	0.40	0.40	0.40	
	Sub-total	13.07	15.96	18.86	21.75	24.65	26.09	27.54	30.86	34.17	34.17	34.17	
3 O&M cost (PhP million)	11.34	11.88	12.42	12.97	13.51	14.05	14.05	14.05	14.05	17.13	21.75	29.44	
4 Balance (PhP million)	1.73	4.09	6.44	8.79	11.14	12.04	13.49	16.80	17.04	12.42	4.73		
10	1 FUSA area (ha)	14,157											
	2 Income (PhP million)												
	ISF Income	29.71	31.98	34.24	36.51	38.77	39.90	41.03	41.95	42.87	42.87	42.87	
	Miscellaneous Income	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	
	Sub-total	30.59	32.86	35.12	37.38	39.65	40.78	41.91	42.83	43.75	43.75	43.75	
3 O&M cost (PhP million)	21.91	21.09	20.28	19.47	18.65	17.84	17.84	17.84	21.75	27.61	37.37		
4 Balance (PhP million)	8.68	11.76	14.84	17.92	21.00	22.94	24.07	24.99	22.00	16.14	6.37		
11	1 FUSA area (ha)	5,155											
	2 Income (PhP million)												
	ISF Income	13.87	14.22	14.57	14.92	15.26	15.44	15.61	15.61	15.61	15.61	15.61	
	Miscellaneous Income	0.63	0.63	0.63	0.63	0.63	0.63	0.63	0.63	0.63	0.63	0.63	
	Sub-total	14.50	14.85	15.20	15.54	15.89	16.06	16.24	16.24	16.24	16.24	16.24	
3 O&M cost (PhP million)	4.29	4.73	5.17	5.61	6.05	6.50	6.50	6.50	7.92	10.05	13.61		
4 Balance (PhP million)	10.21	10.12	10.02	9.93	9.84	9.57	9.74	9.74	8.32	6.19	2.63		
12	1 FUSA area (ha)	20,579											
	2 Income (PhP million)												
	ISF Income	40.58	43.66	46.74	49.82	52.90	54.44	55.98	59.15	62.32	62.32	62.32	
	Miscellaneous Income	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	
	Sub-total	41.50	44.58	47.65	50.73	53.81	55.35	56.89	60.06	63.23	63.23	63.23	
3 O&M cost (PhP million)	31.02	30.00	28.98	27.97	26.95	25.93	25.93	25.93	31.61	40.13	54.33		
4 Balance (PhP million)	10.48	14.57	18.67	22.77	26.87	29.42	30.96	34.13	31.62	23.10	8.90		
13	1 FUSA area (ha)	5,040											
	2 Income (PhP million)												
	ISF Income	8.49	9.40	10.31	11.22	12.13	12.58	13.04	14.15	15.26	15.26	15.26	
	Miscellaneous Income	0.34	0.34	0.34	0.34	0.34	0.34	0.34	0.34	0.34	0.34	0.34	
	Sub-total	8.83	9.74	10.65	11.55	12.46	12.92	13.37	14.49	15.60	15.60	15.60	
3 O&M cost (PhP million)	7.17	7.01	6.84	6.68	6.52	6.35	6.35	6.35	7.74	9.83	13.31		
4 Balance (PhP million)	1.65	2.73	3.80	4.87	5.95	6.57	7.02	8.14	7.86	5.77	2.29		
Total (32 NIS)	1 FUSA area (ha)	86,840											
	2 Income (PhP million)												
	ISF Income	133.42	152.19	170.96	189.73	208.50	217.89	227.27	244.76	262.26	262.26	262.26	
	Miscellaneous Income	4.59	4.59	4.59	4.59	4.59	4.59	4.59	4.59	4.59	4.59	4.59	
Sub-total	138.01	156.78	175.55	194.32	213.09	222.47	231.86	249.35	266.85	266.85	266.85		
3 O&M cost (PhP million)	124.70	121.65	118.59	115.53	112.48	109.42	109.42	109.42	133.39	169.34	229.26		
4 Balance (PhP million)	13.30	35.13	56.96	78.79	100.61	113.06	122.44	139.93	133.46	97.51	37.59		

Table G-5 (3)

Projection on Financial Balance for 32 NISs for SLRIF

Case-3: (1) PS Cost doubled, (2) ISF in Illocos Norte no change (1.5 cav/ha)
(3) 2 crop harvest

Region	Description	Year in Order											
		0	1	2	3	4	5	6	7	8	9	10	
1	1 FUSA area (ha)	20,593											
	2 Income (PhP million)												
	ISF Income	10.24	13.88	17.52	21.16	24.80	26.62	28.44	33.35	38.26	38.26	38.26	
	Miscellaneous Income	0.37	0.37	0.37	0.37	0.37	0.37	0.37	0.37	0.37	0.37	0.37	
	Sub-total	10.61	14.25	17.89	21.53	25.17	26.99	28.81	33.72	38.63	38.63	38.63	
3 O&M cost (PhP million)	24.02	29.60	35.17	40.75	46.32	51.89	51.89	51.89	57.58	66.10	80.31		
4 Balance (PhP million)	-13.41	-15.35	-17.28	-19.21	-21.15	-24.90	-23.08	-18.17	-18.95	-27.48	-41.68		
3	1 FUSA area (ha)	3,126											
	2 Income (PhP million)												
	ISF Income	6.08	6.68	7.28	7.87	8.47	8.77	9.07	9.27	9.47	9.47	9.47	
	Miscellaneous Income	0.56	0.56	0.56	0.56	0.56	0.56	0.56	0.56	0.56	0.56	0.56	
	Sub-total	6.64	7.24	7.83	8.43	9.03	9.32	9.62	9.82	10.02	10.02	10.02	
3 O&M cost (PhP million)	10.66	10.11	9.55	8.99	8.44	7.88	7.88	7.88	8.74	10.03	12.19		
4 Balance (PhP million)	-4.03	-2.87	-1.72	-0.56	0.59	1.45	1.75	1.94	1.28	-0.01	-2.17		
4	1 FUSA area (ha)	7,038											
	2 Income (PhP million)												
	ISF Income	11.77	13.20	14.63	16.06	17.49	18.20	18.92	20.11	21.31	21.31	21.31	
	Miscellaneous Income	0.51	0.51	0.51	0.51	0.51	0.51	0.51	0.51	0.51	0.51	0.51	
	Sub-total	12.27	13.70	15.13	16.56	17.99	18.71	19.42	20.62	21.82	21.82	21.82	
3 O&M cost (PhP million)	10.41	11.88	13.34	14.81	16.27	17.74	17.74	17.74	19.68	22.59	27.45		
4 Balance (PhP million)	1.86	1.83	1.79	1.76	1.72	0.97	1.69	2.88	2.14	-0.77	-5.63		
6	1 FUSA area (ha)	11,152											
	2 Income (PhP million)												
	ISF Income	12.67	15.57	18.46	21.35	24.25	25.69	27.14	30.46	33.77	33.77	33.77	
	Miscellaneous Income	0.40	0.40	0.40	0.40	0.40	0.40	0.40	0.40	0.40	0.40	0.40	
	Sub-total	13.07	15.96	18.86	21.75	24.65	26.09	27.54	30.86	34.17	34.17	34.17	
3 O&M cost (PhP million)	11.34	14.69	18.04	21.40	24.75	28.11	28.11	28.11	31.18	35.80	43.50		
4 Balance (PhP million)	1.73	1.27	0.81	0.35	-0.11	-2.01	-0.57	2.75	2.99	-1.63	-9.32		
10	1 FUSA area (ha)	14,157											
	2 Income (PhP million)												
	ISF Income	29.71	31.98	34.24	36.51	38.77	39.90	41.03	41.95	42.87	42.87	42.87	
	Miscellaneous Income	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	
	Sub-total	30.59	32.86	35.12	37.38	39.65	40.78	41.91	42.83	43.75	43.75	43.75	
3 O&M cost (PhP million)	21.91	24.66	27.42	30.17	32.92	35.68	35.68	35.68	39.58	45.44	55.21		
4 Balance (PhP million)	8.68	8.19	7.70	7.21	6.72	5.10	6.24	7.15	4.16	-1.70	-11.47		
11	1 FUSA area (ha)	5,155											
	2 Income (PhP million)												
	ISF Income	13.87	14.22	14.57	14.92	15.26	15.44	15.61	15.61	15.61	15.61	15.61	
	Miscellaneous Income	0.63	0.63	0.63	0.63	0.63	0.63	0.63	0.63	0.63	0.63	0.63	
	Sub-total	14.50	14.85	15.20	15.54	15.89	16.06	16.24	16.24	16.24	16.24	16.24	
3 O&M cost (PhP million)	4.29	6.03	7.77	9.51	11.25	12.99	12.99	12.99	14.41	16.55	20.10		
4 Balance (PhP million)	10.21	8.82	7.42	6.03	4.64	3.07	3.25	3.25	1.82	-0.31	-3.87		
12	1 FUSA area (ha)	20,579											
	2 Income (PhP million)												
	ISF Income	40.58	43.66	46.74	49.82	52.90	54.44	55.98	59.15	62.32	62.32	62.32	
	Miscellaneous Income	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	
	Sub-total	41.50	44.58	47.65	50.73	53.81	55.35	56.89	60.06	63.23	63.23	63.23	
3 O&M cost (PhP million)	31.02	35.19	39.36	43.52	47.69	51.86	51.86	51.86	57.54	66.06	80.26		
4 Balance (PhP million)	10.48	9.39	8.30	7.21	6.12	3.49	5.03	8.20	5.69	-2.83	-17.03		
13	1 FUSA area (ha)	5,040											
	2 Income (PhP million)												
	ISF Income	8.49	9.40	10.31	11.22	12.13	12.58	13.04	14.15	15.26	15.26	15.26	
	Miscellaneous Income	0.34	0.34	0.34	0.34	0.34	0.34	0.34	0.34	0.34	0.34	0.34	
	Sub-total	8.83	9.74	10.65	11.55	12.46	12.92	13.37	14.49	15.60	15.60	15.60	
3 O&M cost (PhP million)	7.17	8.28	9.38	10.49	11.60	12.70	12.70	12.70	14.09	16.18	19.66		
4 Balance (PhP million)	1.65	1.46	1.26	1.06	0.87	0.22	0.67	1.79	1.51	-0.58	-4.06		
Total (32 NIS)	1 FUSA area (ha)	86,840											
	2 Income (PhP million)												
	ISF Income	133.42	148.58	163.74	178.90	194.06	201.64	209.22	224.04	238.86	238.86	238.86	
	Miscellaneous Income	4.59	4.59	4.59	4.59	4.59	4.59	4.59	4.59	4.59	4.59	4.59	
	Sub-total	138.01	153.17	168.33	183.49	198.65	206.23	213.81	228.63	243.45	243.45	243.45	
3 O&M cost (PhP million)	124.70	143.53	162.36	181.19	200.01	218.84	218.84	218.84	242.81	278.76	338.68		
4 Balance (PhP million)	13.30	9.64	5.97	2.30	-1.36	-12.61	-5.03	9.79	0.65	-35.31	-95.23		

Table G-5 (4)

Projection on Financial Balance for 32 NISs for SLRIF

Case-4: (1) PS Cost doubled, (2) ISF in Ilocos Norte adjusted (WS 2 cav/ha, DS 3 cav/ha)
(3) 2 crop harvest

Region	Description	Year in Order											
		0	1	2	3	4	5	6	7	8	9	10	
1	1 FUSA area (ha)	20,593											
	2 Income (PhP million)												
	ISF Income	10.24	17.59	24.94	32.29	39.64	43.31	46.99	54.67	62.36	62.36	62.36	
	Miscellaneous Income	0.37	0.37	0.37	0.37	0.37	0.37	0.37	0.37	0.37	0.37	0.37	
	Sub-total	10.61	17.96	25.31	32.66	40.01	43.69	47.36	55.04	62.73	62.73	62.73	
3 O&M cost (PhP million)	24.02	29.60	35.17	40.75	46.32	51.89	51.89	51.89	57.58	66.10	80.31		
4 Balance (PhP million)	-13.41	-11.64	-9.86	-8.08	-6.31	-8.21	-4.53	3.15	5.15	-3.37	-17.58		
3	1 FUSA area (ha)	3,126											
	2 Income (PhP million)												
	ISF Income	6.08	6.68	7.28	7.87	8.47	8.77	9.07	9.27	9.47	9.47	9.47	
	Miscellaneous Income	0.56	0.56	0.56	0.56	0.56	0.56	0.56	0.56	0.56	0.56	0.56	
	Sub-total	6.64	7.24	7.83	8.43	9.03	9.32	9.62	9.82	10.02	10.02	10.02	
3 O&M cost (PhP million)	10.66	10.11	9.55	8.99	8.44	7.88	7.88	7.88	8.74	10.03	12.19		
4 Balance (PhP million)	-4.03	-2.87	-1.72	-0.56	0.59	1.45	1.75	1.94	1.28	-0.01	-2.17		
4	1 FUSA area (ha)	7,038											
	2 Income (PhP million)												
	ISF Income	11.77	13.20	14.63	16.06	17.49	18.20	18.92	20.11	21.31	21.31	21.31	
	Miscellaneous Income	0.51	0.51	0.51	0.51	0.51	0.51	0.51	0.51	0.51	0.51	0.51	
	Sub-total	12.27	13.70	15.13	16.56	17.99	18.71	19.42	20.62	21.82	21.82	21.82	
3 O&M cost (PhP million)	10.41	11.88	13.34	14.81	16.27	17.74	17.74	17.74	19.68	22.59	27.45		
4 Balance (PhP million)	1.86	1.83	1.79	1.76	1.72	0.97	1.69	2.88	2.14	-0.77	-5.63		
6	1 FUSA area (ha)	11,152											
	2 Income (PhP million)												
	ISF Income	12.67	15.57	18.46	21.35	24.25	25.69	27.14	30.46	33.77	33.77	33.77	
	Miscellaneous Income	0.40	0.40	0.40	0.40	0.40	0.40	0.40	0.40	0.40	0.40	0.40	
	Sub-total	13.07	15.96	18.86	21.75	24.65	26.09	27.54	30.86	34.17	34.17	34.17	
3 O&M cost (PhP million)	11.34	14.69	18.04	21.40	24.75	28.11	28.11	28.11	31.18	35.80	43.50		
4 Balance (PhP million)	1.73	1.27	0.81	0.35	-0.11	-2.01	-0.57	2.75	2.99	-1.63	-9.32		
10	1 FUSA area (ha)	14,157											
	2 Income (PhP million)												
	ISF Income	29.71	31.98	34.24	36.51	38.77	39.90	41.03	41.95	42.87	42.87	42.87	
	Miscellaneous Income	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	
	Sub-total	30.59	32.86	35.12	37.38	39.65	40.78	41.91	42.83	43.75	43.75	43.75	
3 O&M cost (PhP million)	21.91	24.66	27.42	30.17	32.92	35.68	35.68	35.68	39.58	45.44	55.21		
4 Balance (PhP million)	8.68	8.19	7.70	7.21	6.72	5.10	6.24	7.15	4.16	-1.70	-11.47		
11	1 FUSA area (ha)	5,155											
	2 Income (PhP million)												
	ISF Income	13.87	14.22	14.57	14.92	15.26	15.44	15.61	15.61	15.61	15.61	15.61	
	Miscellaneous Income	0.63	0.63	0.63	0.63	0.63	0.63	0.63	0.63	0.63	0.63	0.63	
	Sub-total	14.50	14.85	15.20	15.54	15.89	16.06	16.24	16.24	16.24	16.24	16.24	
3 O&M cost (PhP million)	4.29	6.03	7.77	9.51	11.25	12.99	12.99	12.99	14.41	16.55	20.10		
4 Balance (PhP million)	10.21	8.82	7.42	6.03	4.64	3.07	3.25	3.25	1.82	-0.31	-3.87		
12	1 FUSA area (ha)	20,579											
	2 Income (PhP million)												
	ISF Income	40.58	43.66	46.74	49.82	52.90	54.44	55.98	59.15	62.32	62.32	62.32	
	Miscellaneous Income	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	
	Sub-total	41.50	44.58	47.65	50.73	53.81	55.35	56.89	60.06	63.23	63.23	63.23	
3 O&M cost (PhP million)	31.02	35.19	39.36	43.52	47.69	51.86	51.86	51.86	57.54	66.06	80.26		
4 Balance (PhP million)	10.48	9.39	8.30	7.21	6.12	3.49	5.03	8.20	5.69	-2.83	-17.03		
13	1 FUSA area (ha)	5,040											
	2 Income (PhP million)												
	ISF Income	8.49	9.40	10.31	11.22	12.13	12.58	13.04	14.15	15.26	15.26	15.26	
	Miscellaneous Income	0.34	0.34	0.34	0.34	0.34	0.34	0.34	0.34	0.34	0.34	0.34	
	Sub-total	8.83	9.74	10.65	11.55	12.46	12.92	13.37	14.49	15.60	15.60	15.60	
3 O&M cost (PhP million)	7.17	8.28	9.38	10.49	11.60	12.70	12.70	12.70	14.09	16.18	19.66		
4 Balance (PhP million)	1.65	1.46	1.26	1.06	0.87	0.22	0.67	1.79	1.51	-0.58	-4.06		
Total (32 NIS)	1 FUSA area (ha)	86,840											
	2 Income (PhP million)												
	ISF Income	133.42	152.19	170.96	189.73	208.50	217.89	227.27	244.76	262.26	262.26	262.26	
	Miscellaneous Income	4.59	4.59	4.59	4.59	4.59	4.59	4.59	4.59	4.59	4.59	4.59	
	Sub-total	138.01	156.78	175.55	194.32	213.09	222.47	231.86	249.35	266.85	266.85	266.85	
3 O&M cost (PhP million)	124.70	143.53	162.36	181.19	200.01	218.84	218.84	218.84	242.81	278.76	338.68		
4 Balance (PhP million)	13.30	13.25	13.19	13.13	13.08	3.64	13.02	30.51	24.04	-11.91	-71.83		

Table G-5 (5)

Projection on Financial Balance for 32 NISs for SLRIF

Case-5: (1) PS Cost doubled, (2) ISF in Illocos Norte adjusted (WS 2 cav/ha, DS 3 cav/ha)
 (3) 3 crop harvest (3rd cropping area is 35% of 2nd cropping area)

Region	Description	Year in Order											
		0	1	2	3	4	5	6	7	8	9	10	
1	1 FUSA area (ha)	20,593											
	2 Income (PhP million)												
	ISF Income	10.24	15.12	19.99	24.87	29.74	32.18	34.62	41.33	48.03	48.03	48.03	
	Miscellaneous Income	0.37	0.37	0.37	0.37	0.37	0.37	0.37	0.37	0.37	0.37	0.37	
	Sub-total	10.61	15.49	20.36	25.24	30.11	32.55	34.99	41.70	48.40	48.40	48.40	
3 O&M cost (PhP million)	24.02	29.04	34.05	39.06	44.08	49.09	49.09	49.09	49.09	54.77	63.30	77.51	
4 Balance (PhP million)	-13.41	-13.55	-13.69	-13.82	-13.96	-16.54	-14.10	-7.39	-6.37	-14.89	-29.10		
3	1 FUSA area (ha)	3,126											
	2 Income (PhP million)												
	ISF Income	6.08	7.25	8.41	9.58	10.74	11.32	11.91	12.34	12.78	12.78	12.78	
	Miscellaneous Income	0.56	0.56	0.56	0.56	0.56	0.56	0.56	0.56	0.56	0.56	0.56	
	Sub-total	6.64	7.80	8.97	10.13	11.30	11.88	12.46	12.90	13.33	13.33	13.33	
3 O&M cost (PhP million)	10.66	10.02	9.38	8.74	8.09	7.45	7.45	7.45	8.31	9.61	11.77		
4 Balance (PhP million)	-4.03	-2.22	-0.41	1.40	3.20	4.43	5.01	5.45	5.02	3.73	1.57		
4	1 FUSA area (ha)	7,038											
	2 Income (PhP million)												
	ISF Income	11.77	14.33	16.90	19.46	22.03	23.31	24.59	26.68	28.77	28.77	28.77	
	Miscellaneous Income	0.51	0.51	0.51	0.51	0.51	0.51	0.51	0.51	0.51	0.51	0.51	
	Sub-total	12.27	14.84	17.40	19.97	22.53	23.82	25.10	27.19	29.28	29.28	29.28	
3 O&M cost (PhP million)	10.41	11.69	12.96	14.23	15.50	16.78	16.78	16.78	18.72	21.63	26.49		
4 Balance (PhP million)	1.86	3.15	4.45	5.74	7.03	7.04	8.32	10.41	10.56	7.64	2.79		
6	1 FUSA area (ha)	11,152											
	2 Income (PhP million)												
	ISF Income	12.67	17.11	21.55	25.99	30.43	32.65	34.87	40.23	45.59	45.59	45.59	
	Miscellaneous Income	0.40	0.40	0.40	0.40	0.40	0.40	0.40	0.40	0.40	0.40	0.40	
	Sub-total	13.07	17.51	21.95	26.39	30.83	33.05	35.27	40.63	45.99	45.99	45.99	
3 O&M cost (PhP million)	11.34	14.39	17.44	20.49	23.54	26.59	26.59	26.59	29.66	34.28	41.98		
4 Balance (PhP million)	1.73	3.13	4.52	5.91	7.30	6.47	8.69	14.05	16.33	11.71	4.02		
10	1 FUSA area (ha)	14,157											
	2 Income (PhP million)												
	ISF Income	29.71	34.41	39.11	43.81	48.51	50.86	53.21	55.54	57.87	57.87	57.87	
	Miscellaneous Income	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	
	Sub-total	30.59	35.29	39.99	44.69	49.38	51.73	54.08	56.42	58.75	58.75	58.75	
3 O&M cost (PhP million)	21.91	24.28	26.64	29.01	31.38	33.75	33.75	33.75	37.65	43.52	53.28		
4 Balance (PhP million)	8.68	11.01	13.34	15.67	18.01	17.99	20.34	22.67	21.10	15.24	5.47		
11	1 FUSA area (ha)	5,155											
	2 Income (PhP million)												
	ISF Income	13.87	15.16	16.44	17.72	19.01	19.65	20.29	20.68	21.07	21.07	21.07	
	Miscellaneous Income	0.63	0.63	0.63	0.63	0.63	0.63	0.63	0.63	0.63	0.63	0.63	
	Sub-total	14.50	15.78	17.07	18.35	19.64	20.28	20.92	21.31	21.70	21.70	21.70	
3 O&M cost (PhP million)	4.29	5.89	7.49	9.09	10.69	12.29	12.29	12.29	13.71	15.85	19.40		
4 Balance (PhP million)	10.21	9.89	9.58	9.26	8.95	7.99	8.63	9.02	7.99	5.86	2.30		
12	1 FUSA area (ha)	20,579											
	2 Income (PhP million)												
	ISF Income	40.58	46.93	53.27	59.62	65.97	69.14	72.31	78.22	84.13	84.13	84.13	
	Miscellaneous Income	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	
	Sub-total	41.50	47.84	54.19	60.53	66.88	70.05	73.23	79.13	85.04	85.04	85.04	
3 O&M cost (PhP million)	31.02	34.63	38.23	41.84	45.45	49.06	49.06	49.06	54.74	63.25	77.45		
4 Balance (PhP million)	10.48	13.22	15.95	18.69	21.43	21.00	24.17	30.08	30.31	21.79	7.59		
13	1 FUSA area (ha)	5,040											
	2 Income (PhP million)												
	ISF Income	8.49	10.18	11.87	13.56	15.25	16.10	16.95	18.77	20.60	20.60	20.60	
	Miscellaneous Income	0.34	0.34	0.34	0.34	0.34	0.34	0.34	0.34	0.34	0.34	0.34	
	Sub-total	8.83	10.52	12.21	13.90	15.59	16.44	17.28	19.11	20.94	20.94	20.94	
3 O&M cost (PhP million)	7.17	8.14	9.11	10.08	11.05	12.01	12.01	12.01	13.41	15.49	18.97		
4 Balance (PhP million)	1.65	2.38	3.10	3.82	4.55	4.42	5.27	7.10	7.54	5.45	1.97		
Total (32 NIS)	1 FUSA area (ha)	86,840											
	2 Income (PhP million)												
	ISF Income	133.42	160.49	187.55	214.62	241.68	255.22	268.75	293.80	318.85	318.85	318.85	
	Miscellaneous Income	4.59	4.59	4.59	4.59	4.59	4.59	4.59	4.59	4.59	4.59	4.59	
	Sub-total	138.01	165.07	192.14	219.21	246.27	259.81	273.34	298.39	323.44	323.44	323.44	
3 O&M cost (PhP million)	124.70	141.16	157.63	174.09	190.55	207.01	207.01	207.01	230.98	266.93	326.85		
4 Balance (PhP million)	13.30	23.91	34.52	45.12	55.73	52.80	66.33	91.38	92.47	56.51	-3.41		

Annex H

Consulting Services

Annex H

CONSULTING SERVICES

1. General

The objective of SLRIF is to strengthen the irrigation sector and contribute to increase food production and improve living standards of farmers in the Philippines by restoring original functions of the national irrigation system (NIS) and establishing a sustainable management and operation and maintenance (O&M) system of NIS through reconstruction and systematic implementation of IMT programs. The basic concept in formulating SLRIF project is to set up the total amount of sector loan through selection of NISs of which high priority coupled with technical, economical, environmental and social validity of rehabilitation is confirmed in due consideration of problems, causes and countermeasures of facilities and management and O&M of NISs. Furthermore, a proposed should be included in the SLRIF project focusing on strengthening of institutional management of NIA and irrigators association (IA) as this is indispensable to strengthen the irrigation sector.

The main objectives of the consulting services is to assist the National Irrigation Administration (NIA) for successful implementation of Sector-Loan on Rehabilitation of Irrigation Facilities (SLRIF) in consideration of social and environmental aspect

2. Consulting Service for SLRIF

2.1 Outline of the Project

The project consists of hard and soft components to be implemented in an integrated manner. The hard component includes civil works for restoration and rehabilitation of irrigation facilities of NIS to recover the original function and further establish sustainable base for water management. The soft component is focused on: (a) helping IAs and NIA to implement IMT programs; (b) strengthening NIA's management; and (c) strengthening IAs by providing a package of cooperative facilities as well as farming guidance. The proposed SLRIF is to realize sustainable O&M of irrigation facilities of NIS by NIA through rehabilitation of existing irrigation systems of the 32 short-listed NISs located in eight regions nationwide, covering 86,840 ha in total FUSA area, and realization of IMT through strengthening of NIA management, NIA-IS-LGU partnership, and FIAs/IAs.

2.2 Implementation Schedule

Prior to the implementation of proposed SLRIF project, it is a prerequisite to conduct survey, definite plan formulation and detailed design works for each sub-project of SLRIF by consultants based on work period, varying from 9 to 12 months, depending on the size of irrigation areas.

In setting up the rehabilitation work periods, the standard is decided as two years for NISs with FUSA of less than 2,000 ha, two and a half years for NISs of 2,000~4,000 ha, and three years for NISs over 4,000 ha. These periods are based on the past performance of rehabilitation works of NIA. With minor adjustments considering the hard components of each candidate NISs, the overall implementation schedule of proposed SLRIF project has been prepared. All proposed works are scheduled to be completed by the end of 2016 as shown in Figures 4-3 and 4-4.

The institutional strengthening component of the project will be conducted in parallel with the rehabilitation works for the 2.5-year period. Prior to the commencement of institutional programs, detailed planning works of the package programs of institutional development will be conducted in the initial stage of the project implementation period as shown in Figure 4-5.

Of the agricultural support components of the project, the location-specific integrated crop management program will be implemented in harmony with the Reactivation Program of FIAs/IAs and NISs. Meanwhile, high-quality seed use program will be started from the initial stage of the project implementation period aiming to secure the availability of high-quality rice seeds in the 32 short-listed NISs.

2.3 Scope of the Consulting Services

The scope of the consulting services covers the following items:

- (1) Overall project management;
- (2) Feasibility study for Core B sub-projects;
- (3) Pre-construction works for rehabilitation of irrigation facilities including field investigations, detailed design and preparation of tender documents;
- (4) Construction supervision for all sub-projects;
- (5) Assistance to NIA in implementation of institutional strengthening programs; and
- (6) Assistance to NIA in implementation of agricultural support.

The detail of the consulting services is shown in the Terms of Reference for the consulting services for SLRIF presented in the Attachment-1.

3. Assignment Period of Experts for the Consulting Services

Total period required for the consulting services is estimated at 66 month (5.5 years) as shown in Figure 4-3 attached.

Required experts for the consulting services is 204 MM for foreign experts and 471 MM for local experts as shown in Attachment-2

4. Cost of the Consulting Services

The cost of the consulting services is estimated at PhP 830.01 million comprising PhP456.51 million for the foreign currency portion and PhP373.50 million for the local currency portion as shown in Table 4-9 attached.

Sector-Loan on Rehabilitation of Irrigation Facilities (SLRIF)

Terms of Reference for Consulting Services for SLRIF

1. Objectives

The main objectives of the consulting services (the Services) would be assist the National Irrigation Administration (NIA) doe successful implementation of the Sector Loan on Rehabilitation of Irrigation Facilities (SLRIF) in consideration of social and environmental aspect.

2. Scope of the Consulting Services

The scope of the consulting services covers the following items:

- (1) Overall project management;
- (2) Feasibility study for Core B sub-projects;
- (3) Pre-construction works for rehabilitation of irrigation facilities including field investigations, detailed design and preparation of tender documents;
- (4) Construction supervision for all sub-projects;
- (5) Assistance to NIA in implementation of institutional strengthening programs; and
- (6) Assistance to NIA in implementation of agricultural support.

3. Detailed Terms of Reference

3.1 Assistance for Overall Project Management

Task Concept

- (1) To review and finalize project scheme and project management system by each component;
- (2) To prepare the Implementation Manual for components of Financial Management, Civil Works, Institutional Development, Agricultural and Environmental Development and Procurement of Equipment;
- (3) To review and evaluate the feasibility study and detailed design submitted by each NISs;

Assistance Concept

- (1) To assist PMO in terms of overall project management and coordination among DA, LGU and NGOs;
- (2) To assist PMO in the preparation of annual implementation program, budgetary arrangement and materials/data required for meetings and workshops concerning the Project; and
- (3) To assist PMO in preparation of financial and disbursement documents submitted to JICA.

3.2 Assistance for Rehabilitation Works of Irrigation Facilities Component

Task Concept

- (1) To prepare supplemental guidelines;
- (2) To review and finalize feasibility study and detailed design, construction drawings, technical specifications and cost estimates of rehabilitation works of irrigation facilities prepared by NIA;
- (3) To prepare implementation schedule for each NISs;

- (4) To review and finalize the standard tender document for civil works prepared by NIA;
- (5) To review and evaluate pre-qualification documents and tendering documents for bidding prepared by NISs;
- (6) To review and finalize implementation schedule of work package;
- (7) To monitor progress of works for each NISs;
- (8) To conduct final inspection after completion of the works;
- (9) To prepare operation and maintenance manual for each NISs.

Assistance Concept

- (1) To assist PMO in reviewing the documents pertaining to contract works;
- (2) To assist PMO in evaluating bid documents for civil works and procured equipment;
- (3) To assist PMO in monitoring the construction works through site inspection;
- (4) To assist PMO in executing the final inspection for the completed sub-projects;
- (5) To assist PMO in establishing O&M system;
- (6) To assist PMO in finalizing proposed IMT support facilities; and
- (7) To assist PMO in conducting IMT GIS Database survey.

3.3 Assistance for Institutional Development Component

Task Concept

- (1) To review the existing irrigation system including IA organizations and activities;
- (2) To prepare NIA institutional strengthening program including various trainings and workshops;
- (3) To prepare strengthening program of NIA-IA-LGU Partnership including workshop & on-the-job training;
- (4) To prepare reactivation program of FIAs/IAs and Irrigation System Management committee (ISMC) of NIA including workshop and on-the-job training with field inspection;

Assistance Concept

- (1) To assist PMO in implementation training on capacity building for staff of NIA CO and 8 RIOs;
- (2) To assist PMO in implementation various workshop programs;
- (3) To assist PMO in implementation on-the-job training with field inspection; and
- (4) To assist in the preparation of action plans for institutional development.

3.4 Assistance for Agricultural & Environmental Development Component

Task Concept

- (1) To review the implementation schemes on the existing programs in consultation with PMO;
- (2) To validate agricultural and environmental development plan;
- (3) To prepare technical guidance and training program as well as technology transfer promotion program;
- (4) To product support services including seed subsidy and fertilizer support;

Assistance Concept

- (1) To assist PMO in monitoring the progress of activities; and
- (2) To assist in the preparation of action plans for agricultural and environmental development.

3.5 Assistance for Procurement of Equipment

Task Concept

- (1) To prepare technical specification of equipment, in consultation with PMO;
- (2) To monitor compliance to overall procurement procedures;

Assistance Concept

- (1) To assist PMO in tendering bids and contracts; and
- (2) To assist PMO in providing guidance for operation and maintenance of equipment.

3.6 Assistance for Environmental Monitoring

Task Concept

- (1) To monitor the social and environmental effects/benefits;
- (2) To recommend measures to address potential negative impacts of the project as necessary; and

Assistance Concept

- (1) To assist PMO in taking the necessary measures to resolve environmental issues.

3.7 Submission of Reports

Task Concept

- (1) Inception report
- (2) Monthly progress reports
- (3) Quarterly progress reports
- (4) Annual reports
- (5) Completion report
- (6) Operation and maintenance Implementation manual

Assistance Concept

- (1) To assist PMO in preparing progress reports for the project on a quarterly basis required by JICA; and
- (2) To assist PMO in preparing a project completion report to submit JICA after the completion of the project.

