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ALLIANCE FOR MINDANAO OFF-GRID RENEWABLE ENERGY PROJECT

FINAL PROJECT PERFORMANCE REPORT

Covering the full project term from February 22, 2002 to March 31, 2005

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Manila, Philippines

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I

I. LIST OF ACRONYMS

| | |
|----------|---|
| AED-P | Alternative Energy Development – Philippines |
| AIM | Asian Institute of Management |
| AMORE | Alliance for Mindanao Off-grid Renewable Energy |
| ARMM | Autonomous Region in Muslim Mindanao |
| BCI | BRECDCA Capability Index |
| BCS | Battery charging station |
| BEACON | Barangay Electrification Assistance for Countryside Development |
| BEP | Barangay Electrification Plan |
| BFAR | Bureau of Fisheries and Aquatic Resources |
| BOS | Balance of system |
| BPRE | Bureau of Postharvest Research and Extension |
| BRECDCA | Barangay Renewable Energy and Community Development Association |
| CBFM | Community-Based Forest Management |
| CDW | Community development worker |
| CENRO | City Environment and Natural Resources Office |
| CTO | Cognizant Technical Officer |
| DENR | Department of Environment and Natural Resources |
| DLPC | Davao Light and Power Company |
| DOE | Department of Energy |
| EC | Electric cooperative |
| GDA | Global Development Alliance |
| IEC | Information, education and communications |
| IGP | Income-generating project |
| IPP | Independent power producer |
| IRG-P | International Resources Group – Philippines |
| Kw | Kilowatt |
| LED | Light-emitting diode |
| LGU | Local government unit |
| M&E | Monitoring and evaluation |
| MDFI | Maguindanaon Development Foundation, Inc. |
| MHP | Micro-hydropower |
| MILF | Moro Islamic Liberation Front |
| MOA | Memorandum of Agreement |
| MOU | Memorandum of Understanding |
| MNLF | Moro National Liberation Front |
| MUFTI | Muslim Upliftment Foundation of Tawi-Tawi, Inc. |
| NGO | Non-government organization |
| NPA | New People’s Army |
| NPC-SPUG | National Power Corporation – Small Power Utilities Group |
| O&M | Operation and maintenance |
| OMA | Office of Muslim Affairs |
| ParBAT | Participatory BRECDCA Assessment Tool |
| PCO | Public calling office |
| PEI | Preferred Energy, Inc. |
| PNOC | Philippine National Oil Company |
| PRA | Participatory rural assessment |

| | |
|-----------|--|
| PV | Photovoltaic |
| QUEDANCOR | Quedan and Rural Credit Guarantee Corporation |
| RE | Renewable energy |
| REE | Renewable energy engineer |
| RIMCU | Research Institute for Mindanao Culture |
| SEC | Securities and Exchange Commission |
| SHS | Solar home system |
| SIBAT | Sibol ng Agham at Teknolohiya, Inc. |
| SSPC | Shell Solar Philippines Corporation |
| TV | Television |
| UNDP | United Nations Development Programme |
| VCD | Video compact disc |
| Wp | Watt-peak |
| YAMOG | YAMOG Renewable Energy Development Group, Inc. |
| YMFI | Yakan Ministry Foundation, Inc. |

II

II. PURPOSE OF DOCUMENT

This document is the Final Performance Report of the Alliance for Mindanao Off-Grid Renewable Energy (AMORE) Project (hereinafter referred to as “the Project”), covering the project period from February 22, 2004 to March 31, 2005.

The Project was implemented under the USAID-Winrock Associate Cooperative Agreement No. 492-A-00-02-00006-00 (hereinafter referred to as “the Agreement”).

This Final Performance Report is being submitted to USAID, in compliance with no. 3 (Final Report) of section A.6 (Reporting and Evaluation) of Attachment 1 (Schedule) of the Agreement; and, as indicated therein, presents all information stipulated in 22CFR 226.51(d) and all other information that Winrock International deems important to disclose to USAID upon the termination of the Project. The report describes the activities and achievements of the project, discusses challenges encountered during implementation, and lessons learned that are being applied in the follow-on AMORE 2 project.

A Final AMORE Financial Report has been submitted under separate cover to USAID, in compliance with sub-no. 3 of no. 1 (Financial Reporting) of section A.6 (Reporting and Evaluation) of Attachment 1 (Schedule) of the Agreement.

III. EXECUTIVE SUMMARY

Project Background, Objectives and Approach. In late 2001 and early 2002 Winrock International developed a proposal for a renewable energy-based rural electrification and economic development project in the Philippines. In consultation with the USAID Mission in Manila, the proposed project was revised to focus exclusively on Mindanao in order to support the peace and development initiatives there. The Alliance for Mindanao Off-grid Renewable Energy (AMORE) Project (originally labeled the MORE Project) was formally approved for funding by USAID/Philippines on February 22, 2002 under the Associate Cooperative Agreement No. 492-A-00-02-00006-00. Project operations began in April 2002. The project was originally slated to end September 30, 2004, but it was subsequently extended till March 31, 2005.

In order to avoid confusion, it should be explained that in this context the title ‘AMORE’ refers to two related and overlapping programs or initiatives. The AMORE Alliance itself is composed of USAID, Philippines DOE, Mirant Philippines, ARMM, and Winrock International. The AMORE Cooperative Agreement is an agreement between USAID and Winrock that is the specific mechanism for the USAID funding and the Winrock implementation of the overall project. This report is formally focused on the two-party USAID-Winrock Cooperative Agreement.

The AMORE Project was designed to support USAID/Philippines’ objectives related to poverty alleviation, social and economic development, environmental sustainability, and peace and order in Mindanao by electrifying at least 160 off-grid rural communities, called *barangays*, in the Autonomous Region in Muslim Mindanao (ARMM) and Western, Central and Southern Mindanao with renewable energy (RE) systems. The project was also intended to enhance the economic and social development of its participating communities, through support for productive livelihood activities and limited investment in social infrastructure such as school electrification. The project design included a significant focus on community preparation activities including working with communities on project preparation and organization, focusing on social preparation activities including community consultation, development needs assessment and preparation of livelihood and community infrastructure projects, securing community participation and buy-in, and building local technical and financial capacity. The expected outputs of the project included the following: (1) at least 160 Barangays electrified under the Missionary RE electrification program, primarily based on private sector funding, with a strong community participation component; (2) mechanisms for community financing of the operation and maintenance of the rural energy systems established; (3) a communication plan implemented to replicate sustainable rural energy development; and (4) community training and technical assistance to ensure the long term sustainability of the systems installed.

To achieve these goals, Winrock laid out strategy involving seven task areas or activities: 1) Stakeholder Dialogues; 2) Barangay Electrification Plan Development; 3) Community Preparation; 4) Project Design, Procurement and Installation; 5) Operations and Maintenance Fund Design; 6) Community Training; and 7) Information, Education, and Communications Program Development and Implementation.

Project Performance.

1. Electrification of at least 160 barangays in the ARMM and Western, Central and Southern Mindanao under the missionary RE electrification program of the Philippine Department of

Energy (DOE), primarily based on private-sector funding, and with a strong community participation component

Winrock was able to meet and exceed the Project's minimum target of 160 barangays in the ARMM and Western, Central, and Southern Mindanao for electrification with renewable energy, energizing a total of 200 barangays. This translates into 5,534 households or approximately 27,670 beneficiaries served. The project's barangay electrification targets were exceeded by 25%. The total capacity of all the PV systems that the Project installed in Mindanao is 259.5 kilowatts-peak, and the capacity of the three micro-hydropower systems constructed is 27 kilowatts. These systems mitigate an estimated 1,400 tons of carbon dioxide emissions from kerosene lamps per year, or over 28,000 tons of CO₂ over the next 20 years.

Mirant Philippines was a major funder of the AMORE project, providing over \$2 million in private sector donations, approximately 20% of the total project budget.. Mirant provided funding for 133, or two-thirds, of the total 200 barangays energized under the Project. As a rule, the Mirant funding was used to pay for the renewable energy equipment, in whole or in part, while USAID paid for costs related to planning, project development, and community organization. Mirant paid for 100% of the RE equipment costs for 82 barangays, and cost-shared the purchase of equipment for 51 barangays with USAID picking up the balance of RE system costs. USAID fully-funded the RE systems cost for 61 barangays, and Davao Light and Power Company (DLP) also funded solar photovoltaic systems for five barangays in its franchise area.

To support effective community organization, the Project engaged Mindanao-based community development NGOs with experience in rural Muslim communities to perform community organizing work., in coordination with the Project's field implementation offices in the ARMM and Western and Central Mindanao. To facilitate community mobilization and ensure the proper operation and maintenance of the RE systems and management of the community's self-raised O&M funds, the participating households in each community were guided and assisted in organizing themselves into a Barangay Renewable Energy and Community Development Association (BRECDA).

2. Establishment of mechanisms for community financing of the operation and maintenance of the RE systems installed

Although the capital equipment for energy supply for community services and enterprise activities under the AMORE project were provided on a subsidized basis, a system was put in place to collect funds on an initial and on-going basis to be used to cover recurring expenses and to maximize sense of ownership among beneficiary communities. These funds were used essentially to operate, maintain, and repair the energy systems. Winrock worked closely with the BRECDA's to develop a collection mechanism that was appropriate to their needs and conditions. A one-time subscription fee of PhP1,000 (US\$18.18) and BRECDA membership fee of PhP100.00 (US\$1.82) were collected per household upon sign-up to serve as the O&M Fund's seed capital and to ascertain the buy-in of the households in the Project. There were differences in the long-term monthly fees based on the type of energy system put in place, i.e. battery charging stations (BCS), solar home systems (SHS), or microhydro systems. For the SHS, Winrock introduced a cost recovery component in the O&M fund contributions, i.e. a monthly lease-to-own fee, which covered 25% of the cost of the SHS. This figure was based on the BRECDA members' ability to pay. A livelihood capital build-up component was also incorporated into the fee structure on the premise that these income-generating projects would enhance their capacity over time to finance the full replacement cost of their batteries and

eventually, of their solar PV panels. At the close of the Project, the BRECDAs have collected total O&M Funds of PhP8,224,771.79 (US\$149,541.31).

3. Community training and technical assistance to ensure the long-term sustainability of the systems installed

To ensure the successful operation of renewable energy projects in the target communities, training activities were conducted under the Project in the following areas: Participatory Rural Appraisal (PRA), Basic Leadership, RE Operation and Maintenance, Basic Financial Management, Basic Entrepreneurship, Skills for Income-generating Projects (IGPs) and Enterprises, Project Proposal Preparation, and Participatory BRECDAs Assessment Tool (ParBAT). Hands-on trainings and cross-visits were interspersed with classroom-type lectures to maximize the BRECDAs' absorption of the knowledge and skills taught. There was also a significant amount of "learning-by-doing work" with Winrock Team members. At the end of each training course, participants were asked to complete a brief survey form to assess the value of the content and presentation of the training and materials provided. Post-training assessments were also conducted to evaluate whether skills had been effectively transferred. Training of trainers (ToT) was also performed to better ensure that a knowledgeable, educated base of local NGOs, enterprises, cooperatives and other entities exist to continue to pursue the implementation, operation and replication of the work begun under the Project.

All 203 BRECDAs organized under the Project received trainings and technical assistance in the following areas:

- a. Participatory Rural Appraisal (PRA)
- b. Basic Leadership
- c. RE Operation and Maintenance
- d. Basic Financial Management
- e. Basic Entrepreneurship
- f. Skills for Income-generating Projects (IGPs) and Enterprises
- g. Project Proposal Making
- h. Participatory BRECDAs Assessment Tool (ParBAT)

4. Preparation and implementation of a communications plan to replicate sustainable rural energy development

Significant effort was put into the Information, Education, and Communications (IEC) activities, focused on two basic types of activities: IEC efforts aimed at publicizing the USAID and AMORE project's contribution to peace and development efforts in Mindanao, and information aimed at strengthening project replication and sustainability. Using multimedia tools such as comics, posters, stickers, banners, flyers, information kits, videos and other electronic presentations, a website with an online project implementation database, national and local print and broadcast publicity, Internet publicity, site visits, and exhibits, among others, to tell stories of poor, unelectrified and conflict-affected villages in Mindanao being transformed into brightly-lit, peaceful, and self-driven communities, the Project has planted the seeds of its recognition as a model rural electrification program. The IEC efforts included preparation of many **Success Stories**, short articles or write-ups documenting positive impacts of the AMORE project and USAID assistance.

5. Livelihood and Social Projects

While household electrification was the primary focus of the AMORE project, the project also supported the economically and socially productive use of renewable energy in order to increase rural incomes and development, and supports social or community applications of renewable energy in order to improve quality of life and build human capital. AMORE livelihood and social project activities began in earnest in Year Two, and were primarily focused primarily on identification and preparation of projects for implementation in Year Three, and on implementation of selected pilot and demonstration projects. This included conducting participatory assessments of the resources in the community and the status of the existing livelihood activities of the people, and assisting communities in identifying new livelihood opportunities or options for improving their existing livelihood activities. AMORE Community Development Workers (CDWs) and Livelihood Specialists then assisted communities to do feasibility studies to ensure that projects' technical and financial viability are carefully examined.

Productive livelihood projects implemented in Year Two included a micro hydro-powered integrated grain and bean mill installed in Saloy, and a solar-powered fish processing and drying demonstration project in Pababag, Tawi-Tawi. Additional productive livelihood projects were supported including grain drying, high value vegetable production with RE-powered micro-irrigation, grain and coffee milling, ice-making for fish preservation, fish drying and processing, aquaculture, and improved seaweed production and drying. Limited social projects supported included telecommunications, ICT, water supply, and school electrification.

Sustainability Focus and Mechanisms. The AMORE Project's focus on community organizing to ensure community buy-in, proper operation and maintenance of the RE systems, and long-term financing of their O&M costs has built sustainability right into the heart of the project's design. Following are the measures that the Project has taken to maximize the prospects for the longevity of its results:

- Supporting establishment of solar parts and service centers;
- BRECDA development and strengthening
- Demonstration and training on productive-use RE applications;
- Demonstration and training on social RE applications;
- Technical assistance in the implementation of non-energy-related income-generating projects and social projects;
- Establishment of technical, financing and marketing linkages;
- Federation of BRECDAs;
- BRECDA federation capacity-building;
- Women empowerment; and
- Youth empowerment.

Challenges Encountered, Responses and Results. The Project faced multiple challenges, not only from operating in Mindanao, the hotbed of violence in the country, but from the following other factors:

- Peace and order challenges including military-rebel conflicts, clan wars and conflicts, and other personal and political conflicts;
- Coordination among stakeholders and reconciling stakeholders' interests and agendas
- Extreme poverty in many project barangays
- Physical hazards of travel to far-flung islands and uplands;
- Lack of flexibility in identifying and selecting participating barangays;
- Complex barangay clearance process;
- Initial skepticism/cynicism of barangay residents; and
- Land tenure and resource use conflict.

Appropriate responses to each of these challenges were made and are reported in the main body of this Report.

Best Practices. Perhaps the most striking accomplishment of AMORE was its success in catalyzing people's participation in the Project, which it achieved through the following measures:

- Adaptation of community organizing approaches to fit local conditions;
- Community counterparting;
- Utilization and development of local talent;
- Development of local leaders and promotion of better self-governance;
- Holistic development approach based on community empowerment;
- Multisectoral alliance-building; and
- Pro-active information-dissemination.

Lessons Learned. The following lessons that the Project learned in the course of its implementation would hopefully help other entities implement better rural electrification projects right from these projects' inception, with more chances of success in improving people's lives and with greater prospects for the sustainability of their results. While most of these lessons were identified early enough in the Project for them to be integrated in its implementation, the Project shall also use these lessons to develop an even better rural electrification approach for its follow-on project.

- Early achievement of modest but concrete accomplishments are very useful in establishing credibility with rural communities;
- Communities generally prefer solar home systems to battery charging stations, despite the former's higher corresponding cost recovery and O&M Fund contributions.
- Micro-hydro power, where feasible, is the most preferred RE technology because of its capacity to energize more households and to power more electrical household applications as well as productive and social RE applications;
- Grid electrification is still more highly preferred to RE-based electrification.
- The will of people to bring about their own development is more powerful than poverty and conflict.
- Development needs strong, disciplined, visionary and dynamic leaders, on one hand, and committed and conscientious followers, on the other.

IV. PROJECT BACKGROUND, OBJECTIVES, AND APPROACH

In late 2001, Winrock International developed a project proposal for rural electrification and economic development based on renewable energy in the Philippines. In consultation with the USAID Mission in Manila, the proposed project was revised to focus exclusively on Mindanao in order to support the government's peace and development initiatives there. The Alliance for Mindanao Off-grid Renewable Energy (AMORE) Project (originally labeled the MORE Project) was formally approved for funding by USAID/Philippines on February 22, 2002 under Associate Cooperative Agreement (CA) No. 492-A-00-02-00006-00. The CA was overseen by USAID/Philippines' Office of Environmental Management (OEM), later renamed the Office of Energy and Environment (OEE).

AMORE was implemented by Winrock International in collaboration with a broad multi-stakeholder alliance comprised of USAID/Philippines, the DOE, the Autonomous Region of Muslim Mindanao (ARMM) and Mirant Philippines. Project operations began in April 2002. The project was originally slated to run until September 30, 2004, but it was subsequently extended till March 31, 2005, for a total project period of 3 years and 5 weeks. The initial mobilization and hiring of project staff started in April 2002, with field activities beginning in late April 2002.

The AMORE Project was designed to complement the rural electrification program of the Philippines Department of Energy (DOE) and to support the GOP's peace and development initiatives in Mindanao. At the beginning of the AMORE Project, over 20% of the Philippine population, approximately 17 million people in over 3 million households, lacked access to electric service. According to the Philippines DOE, approximately 8,000 barangays were classified at the time as unelectrified, and it was estimated 20% to 50% of these would be served most economically by "off-grid" RE systems such as micro-hydro, solar photovoltaic (PV), or hybrid power systems, or by small diesel generators.

To address this service deficit, the DOE pursued a multi-faceted rural electrification program for which it solicited support from bilateral and multilateral donors and the private sector, particularly independent power producers (IPPs). The DOE asked IPPs in the Philippines to support the rural electrification program in two ways: 1) To advance funding under I-94* to provide electricity to host communities either through grid extension or installation of off-grid RE; and 2) To go beyond their formal obligations and support "Adopt a Barangay" activities as part of their corporate social responsibility in alleviating poverty in remote areas. Mirant Philippines Corporation, the country's largest independent power producer, was the most important of the private sector donors to respond to the DOE's requests in support of rural electrification. In April 2002, Mirant signed a Memorandum of Understanding (MOU) with USAID and DOE to fund the provision of renewable energy equipment for electrification of 160 barangays. Thus Mirant Philippines became the largest private sector partner in the AMORE project, providing over 90% of private donations.

* I-94 is the DOE circular requiring power generators to contribute P.01/kwh to the host communities to finance missionary electrification, watershed management, and livelihood development projects.

Objectives

The AMORE project supports broad USAID objectives of fostering social and economic development and peace and order in Mindanao. Specifically, it was designed to support the electrification of over 160 barangays in Mindanao, particularly those in the ARMM and Western, Central and Southern regions. A major focus was placed on community organization, with the goal of leveraging and complementing private sector donations. The project was also designed to increase incomes, enhance economic and social welfare of recipient communities and improve rural communities' quality of life. The following Mission Statement, which reflects this broader context, was developed by AMORE project staff.

To contribute to the peace and development initiatives in Muslim Mindanao by improving quality of life in unelectrified rural communities through sustainable renewable energy projects and effective community organizing

This project was designed to provide support for community electrification projects in Muslim Mindanao, focusing in part on assistance to the private sector in community or social preparation. This objective supported the Government of the Philippines' Department of Energy's (DOE) policy of relying in part on Independent Power Producers (IPP) and other private firms to co-finance and implement rural electrification projects. Winrock supported IPP-funded off-grid barangay electrification through community participation activities, including an intensive consultation process to identify community needs and requirements and to assess capacity; define roles and secure commitments from the community to ensure its sense of project ownership; and build local technical and financial management capability to ensure effective operation and maintenance of the RE systems. While the project was to focus primarily on social/community preparation for RE projects funded by Independent Power Producers (IPP) and other private sector entities, it was also anticipated that in some cases this social preparation work would be done in support of projects funded or financed by agencies including local government units (LGUs), or with USAID funding or cost-sharing procurement of renewable energy systems. In addition to leveraging investment by Mirant and other third parties, the AMORE project supported investments in renewable energy systems and end-use equipment, using USAID funding both direct procurement and project implementation grants or subrecipient agreements. Winrock utilized this USAID hardware funding in a catalytic manner, in order to leverage IPP and other third party funding.

Energy is a critical factor for many aspects of improved or value-added agricultural and post-harvest processes. Lack of access to reliable electricity in rural Muslim Mindanao is one of the important factors that inhibits opportunities for the development and operation of many enterprises. The AMORE Project worked to support use of practical renewable energy technologies for productive uses in Muslim Mindanao, including both electric and thermal loads. These include agriculture, fisheries, aquaculture, and livestock production and processing. The project worked on these economically and socially productive uses in addition to the primary focus on household energy supply from decentralized and dispersed energy systems.

In addition to the central role of energy in economically productive processes, energy is often essential for socially productive applications such as potable water and telecommunications, and for powering applications in schools, health facilities, and other community and local government unit (LGU) facilities. Improved access to information and communication technology (ICT) systems, ranging from simple rural telephony to lower-cost wireless connectivity options (e.g. e-mail, internet) can provide access to economically useful information, strengthen education, and reduce remote communities' sense of isolation. Winrock and its partners worked

to identify and implement low-cost communications options including working with SMART on a number of solar-powered public calling offices (PCOs) using fixed satellite and cellular technology. Winrock also assessed rural telecom service demand and options, to establish a sound basis for selecting sustainable RE-powered telecom technologies and service packages and to clearly lay out the alternative business models for BRECDAs or entrepreneurs to select.

The planned outputs of the AMORE Project included: (1) the electrification of at least 160 barangays in the ARMM and Western, Central and Southern Mindanao under the missionary RE electrification program of the Philippine Department of Energy (DOE), primarily based on private-sector funding, and with a strong community participation component; (2) the establishment of mechanisms for community financing of the operation and maintenance of the RE systems installed; (3) community training and technical assistance to ensure the long-term sustainability of the systems installed; and (4) the preparation and implementation of a communications plan to replicate sustainable rural energy development.

Section V of this document reports on the Project's achievement of these four expected outputs.

Approach

Winrock defined its approach to rural electrification under AMORE as one that would have “a strong community participation component”, in order to strengthen project sustainability. Winrock considered strong community participation as a key element of project sustainability, in part due to the difficulty of relying on private sector entities in the AMORE project area. Community participation was to be enlisted in the form of: (1) consultations with the communities on their development needs and their willingness and capacity to participate in the Project; (2) partnership with the communities on project planning and implementation; and (3) building of the community participants' technical, organizational, financial, and developmental capacities and network of sustainability and development partners.

The renewable energy (RE) technologies used in the assisted communities included PV, micro-hydro, and biomass for limited thermal applications. Where hydro resources were available, preference was given to micro-hydro systems because of their greater potential for livelihood development, compared to PV.

Project activities included establishing sustainable, RE-based rural electrification projects through development of strong community participation and effective social preparation, including community consultation, development needs assessment and preparation of livelihood and community infrastructure projects, securing community participation and buy-in, and building local technical and financial capacity to effectively manage RE systems. To the extent possible, the project focused on social/community preparation for RE projects.

Due to the general lack of producer cooperatives and other pre-existing organizations in most of the AMORE barangays, Winrock had to create community-based institutions to manage the energy systems, collect user fees, and pursue economic development activities. The model that was developed is the Barangay Renewable Energy and Cooperative Development Association or BRECDA. The BRECDA is the organization in each of the energized barangays that was tasked to operate and maintain the energy systems, and to pursue related economic and social development activities. In addition to establishing the BRECDAs, the AMORE project provided significant support for capacity building of BRECDA officers.

The AMORE Project approach was operationalized through the following 7 tasks or work areas:

Task 1. Stakeholder Dialogues

Task 1 included initial and ongoing consultations with the communities and the Project's partners to formulate strategies for the project and address the challenges that arose in the course of the project's implementation. Winrock hosted dialogue sessions with key stakeholder organizations to inform key participants on project goals, objectives, approach, schedule, budget and expected outputs. Follow-on meetings covered project reporting, evaluation and lessons learned. These dialogue sessions served as a means of formulating strategies, functions and responsibilities and assisted in building partnerships among the Team members and associated partner organizations through joint action planning. Such dialogues also served to clearly define the partners' respective roles and responsibilities and to periodically reconfirm their commitment to the project.

Task 2. Barangay Electrification Plan (BEP) Development

Task 2 involved the development and ongoing refinement of a Barangay Electrification Plan (BEP) that set forth proposed technologies, budgets and schedules for community electrification. The BEP development process included identification and screening of the communities that would be covered by the Project according to a clear set of criteria; assessment of the communities' energy resources and determination of the type of RE technology systems that were appropriate for use in each case; the number of households that could be electrified; the productive livelihood or social RE applications that could be implemented in each community; and the electrification schedule. BEP development was based on collection and analysis of secondary data, consultations with counterpart organizations, and surveys, interviews and data verification within the target barangays.

Task 3. Community Preparation Activities

The first step in Task 3 consisted of consultations with the selected communities to ensure that the BEP was consistent with their needs, interests, capacities, and resources. The final decision to proceed with BEP implementation in each specific barangay depended on the results of a series of community assessments. Key components of the community assessments included barangay members' willingness to organize in order to manage energy system operation and cost-recovery, and the identification of high-value productive and social applications of electricity in addition to domestic lighting. The community participants were organized into BRECDAs that became responsible for operating and maintaining the Project's installed RE systems and other projects in the community.

Task 4. Project Design, Procurement, and Installation

Task 4 entailed the cost-effective design and implementation of the identified projects. In some cases, the Winrock Team was responsible for the full project design and procurement of the equipment; in other cases, Winrock undertook detailed project design and the procurement activities were conducted by Mirant. Preparation of the detailed technical design of the renewable energy livelihood and social projects, included economic analysis, engineering analysis, technology selection, system specifications and costs. Development of procurement packages included bid specifications, bidding documents, bid evaluation procedures, contract conditions, administrative arrangements, and assistance to the recipient community in negotiating agreements and contracts related to project development.

Task 5. Operations and Maintenance Fund (O&M Fund) Design

While the capital equipment for the renewable energy systems was provided on a subsidized, grant basis¹, the users were required to cover recurring operation, maintenance, and replacement costs for the energy systems. Task 5 involved the establishment of barangay-level institutions and systems to: a) collect funds on an on-going basis to be used to cover recurring expenses; b) manage funds through the establishment of accounting procedures and bank accounts; and c) ensure transparent and accountable procedures for decisions on expenditures and investments. Typically, the BRECDA organization served as the manager of both the energy systems and the O&M Fund. Project staff worked with the BRECDAs to develop collection mechanisms that were appropriate to their needs and conditions, and to the energy technology and service type offered. For example, in the barangays where solar battery charging (SBC) stations were used to support basic household electrification, charging and service fees were generally collected at the time the battery was brought to the SBC station. In the case of solar home systems (SHS), a monthly fee was often the appropriate solution.

Task 6. Community Training

One of the main distinguishing characteristics of the AMORE Project, compared to other rural energy projects, was the strong focus on developing local capacity. The AMORE Project supported extensive community training, focused on four main areas: Renewable Energy Technical Training, including operations, maintenance, trouble-shooting and repair, and user orientation; BRECDA Operations and Management, including leadership training, financial management and basic accounting, and BRECDA skills development; Business/Economic Development Skills (cross-cutting) including enterprise development, project proposal and business plan preparation, financial management, livelihood core leaders training, and marketing; and Livelihood-related Technology or Skills Training including fish processing, post-harvest handling of seaweed, vegetable production and handicrafts production.

Task 7. Information, Education and Communications (IEC) Program Development and Implementation

USAID/Philippines emphasized the importance of an effective strategic communications plan to serve as an information-sharing mechanism to promote the advantages of community RE electrification projects based on strong community participation. Toward this end, Winrock implemented an information, education, and communications (IEC) plan that allowed fast and accurate sharing of information among stakeholders and potential participants. IEC activities included video presentations, project brochures, project websites, photo exhibits, development of presentation materials for various audiences, preparation of articles on the project, and organization of informational events.

¹ This high level of capital cost subsidy is contrary to the normal practices and approach of Winrock's Clean Energy Group, and was accepted due to the special 'peace and order' nature and goals of the project. The capital subsidy addressed the need to rapidly engage poor communities in conflict-ridden areas, and the desire to rapidly demonstrate the benefits of the peace process, particularly in communities where residents were wary and skeptical due to previous bad experiences and unfulfilled promises.

V. PROJECT PERFORMANCE

This section reports on the Project's accomplishment of its four planned outputs, namely: (1) the electrification of at least 160 barangays in the ARMM and Western, Central and Southern Mindanao under the missionary RE electrification program of the Philippine Department of Energy (DOE), primarily based on private-sector funding, with a strong community participation component; (2) the establishment of mechanisms for community financing of the operation and maintenance of the RE systems installed; (3) community training and technical assistance to ensure the long-term sustainability of the systems installed; and (4) the preparation and implementation of a communications plan to replicate sustainable rural energy development.

1. Electrification of at least 160 barangays in the ARMM and Western, Central and Southern Mindanao under the missionary RE electrification program of the DOE, primarily based on private-sector funding, and with a strong community participation component

Barangay Electrification

Winrock was able to meet and exceed the Project's minimum target of 160 barangays in the ARMM and Western, Central, and Southern Mindanao for electrification with renewable energy, energizing a total of 200 barangays. This translates into 5,534 households or approximately 27,670 beneficiaries served. The project's barangay electrification targets were exceeded by 25%. In Year 1, the project focused on barangay identification and community preparation, and only 10 barangays were electrified. In Year 2, 84 barangays were electrified, and in Year 3 106 barangays were electrified over a 13 month period from 2/22/2004-3/31/2005. The procurements for the 197 barangays electrified with PV were done in a series of packages or batches, as follows: 1st batch- 10 systems; 2nd batch 25 systems; 3rd batch 59 systems; 4th batch 42 systems, 5th batch 4 systems (DLP); 6th batch 51 systems; and 7th batch 5 systems.

The total capacity of all the PV systems that the Project installed in Mindanao is 259.5 kilowatts-peak, and the capacity of the three micro-hydropower systems constructed is 27 kilowatts. These systems mitigate an estimated 1,400 tons of carbon dioxide emissions from kerosene lamps per year, or over 28,000 tons of CO₂ over the next 20 years.

Table 1 Electrification Results by Year

| Year | Barangays Electrified | Households Electrified |
|--------|-----------------------|------------------------|
| Year 1 | 10 | 300 |
| Year 2 | 84 | 2,520 |
| Year 3 | 106 | 3,714 |
| Total | 200 | 5,534 |

Mirant Philippines, the country's largest energy producer was one of the two major funders for the AMORE Project, with only USAID providing more funding. Mirant extended this support to the AMORE Project under its US\$27-million (PhP1.5-billion) Project BEACON (Barangay Electrification Assistance for Countryside Development), by far the biggest corporate social responsibility project ever undertaken in the Philippines. Project Beacon is aimed at electrifying 1,500 barangays all over the country both with grid and RE systems in support of the DOE's *O'llaw* Program. Mirant supported—in whole or in part—the purchase of RE systems for 133, or

two-thirds, of the total 200 barangays energized under the Project.² Mirant had originally intended—under its April 2002 agreement with USAID—to provide funding for the 160 barangays targeted under the AMORE Project, and had in fact already funded the PV battery charging stations (BCSs) for the Project's first 35 barangays in 2002 and early 2003. Due to financial difficulties of the US parent corporation and other factors, Mirant was temporarily unable to support the procurement of PV systems for 59 barangays in the Spring and Summer of 2003. Winrock had to proceed with procurement for the 59 barangays based solely on USAID funds, in order to prevent delays in AMORE project implementation.

The Winrock project team also explored other possible partnerships for funding RE systems procurement, and succeeded in obtaining commitments from the government-owned National Power Corporation's Small Power Utilities Group (NPC-SPUG) for solar PV systems for a total of 300 households in 10 barangays in Sulu, and from the private electric utility Davao Light and Power Company (DLPC) for a total of 150 households in five off-grid barangays in its Davao franchise area; separate Memoranda of Agreement (MOAs) were signed with these organizations.

Soon after, Mirant resumed its funding of PV systems for the Project. This time, however, solar home systems (SHSs) were mostly procured, due to the strong preference of the Project's subsequent participating communities for SHSs over BCSs (despite the correspondingly higher O&M Fund contributions), primarily due to individual system ownership and also the convenience of not having to carry batteries to the BCS for charging. Due to the higher cost of SHSs for 30 households compared to BCSs for the same number of households, however, Mirant's RE systems budget of PhP750,000 (nearly \$14,000) per barangay covered 63% of the systems cost, with USAID funding the remaining 37%. Of the 42 barangays energized in this batch, 29 were energized with SHSs.³ The remaining 13 barangays—which were all in Tawi-Tawi—were energized with the same BCS package that was used previously in the province. AMORE field staff advised continuing with BCS for the Tawi-Tawi barangays, in order to avoid possible tensions between adjacent barangays receiving different levels of service.

The Davao barangays with PV systems funded by DLPC were energized in the first half of Year 3 using PV BCSs for 30 households per barangay.

For the final Mirant-funded project package of 51 barangays, Mirant planned to directly procure 55-Wp SHSs from Shell Solar Philippines Corporation (SSPC), in part as it appeared that 50% of the cost of which would be subsidized under the Philippine National Oil Company's (PNOC's) Dutch-subsidized SHS Distribution Project. This would enable the Mirant budget per barangay to energize more households. The concurrence of DOE, PNOC, and the Dutch Government was required for this to occur, as at that time the PNOC project covered only Regions 1 and 2 and the Cordillera Autonomous Region (CAR), all in northern Luzon. An extended period of consultations with the respective agencies ensued. Although the Dutch government was willing to extend the coverage of the program to AMORE's Mindanao sites, the DOE initially disapproved this. Mirant subsequently decided to proceed with procurement from Shell at the

² Mirant supported 100% of the RE equipment costs for 82 of the barangays and cost-shared with USAID the purchase of RE systems for 51 barangays. USAID fully funded the RE equipment costs for 61 of the barangays (59 PV, 2 micro-hydro).

³ The SHS package per barangay for this batch included one 50-Wp SHS for each of 30 households, one 50-Wp community center lighting system, and two 75-Wp PV streetlights. The PV BCS package per barangay actually consisted of three 300-Wp BCSs, 30 balance-of-systems (BOSs) for 30 households, one 75-Wp community center lighting system, and two 75-Wp PV streetlights.

non-subsidized price, in part to take advantage of Shell Solar's offer of establishing an RE service center in each area where AMORE has installed at least 900 Shell SHS and its commitment to use 7% of the total cost of the procured systems to fund livelihood projects in AMORE barangays. Due to the timing of the procurement of the final Mirant-funded package of systems for 51 barangays, it was necessary to request extension of the project, which was approved by USAID.

The package of 51 Mirant-funded barangays brought the company's total number of energized barangays under the Project to 128, and brought the Project's total number of energized barangays to 195. Winrock and Mirant agreed to have Mirant support electrification of 10 additional barangays in Sulu. NPC-SPUG had committed to provide PV systems for 10 barangays in Sulu, but its efforts had been impeded by several failed procurements, due to an insufficient number of bidders. NPC-SPUG is required by law to follow very specific procurement procedures, and it was precluded from bending the procedures to accommodate the low number of bidders (It appears that security problems in Sulu was a disincentive for some potential bidders.)

As a matter of principle, Winrock was interested in developing a number of micro-hydro projects under AMORE in addition to the PV projects, in part due to the greater potential for productive livelihood use of energy and in part due to the potential for electrifying more than 30 households per barangay. This was stymied somewhat by the major focus on regions lacking in micro-hydro potential—such as Tawi-Tawi, Sulu, and the satellite islands around Basilan, as well as by the pace of project development, and the process by which barangays were assigned to Winrock for electrification. The AMORE project did end up supporting development of 3 micro-hydropower systems. In January 2004, Saloy, an upland barangay two hours from the heart of Davao City, was energized with a 12-kW MHP system through the joint efforts of UNDP, Green Empowerment, and AMORE.⁴ This provided electricity to 155 households and to several productive livelihood and social applications of RE. In January, 2005, the Project commissioned the two MHP systems that it constructed in Sultan Kudarat with USAID funds—i.e., the 8-kW MHP system in Barangay Chua, Bagumbayan for 52 households, and the 7-kW MHP system in Sitio Lam-alis, Barangay Datal Blao, Columbio for 82 households.

Community Participation

Strong community participation was an essential element of project preparation and implementation, serving as a key to project effectiveness and sustainability by helping to ensure the communities' commitment to care for the RE systems and to put up the funds needed to continuously operate and maintain them. Achieving such community participation was a major challenge to the Project, as the barangays that it was mandated to electrify were extremely poor and thus had very limited resources, education, and time for non-livelihood activities, and were in far-flung, hard-to-reach and volatile conflict-affected areas. In addition, many residents had lost faith in the government after more than three decades of neglect, becoming suspicious of pledges of electrification and other forms of assistance.

⁴ UNDP and Green Empowerment initially funded the construction of the MHP system; but when additional funds were needed to complete the project, AMORE agreed to fund the canal and the stairway to the forebay tank as well as to send an engineer from the YAMOG Renewable Energy Development Group, Inc., the project proponent and at the time already an AMORE subcontractor, to Indonesia for training on MHP turbine fabrication so as to strengthen local capability in MHP systems fabrication.

While the BEP identifies the locations, technology choices, and schedule for barangay electrification activities, the final decision to proceed in specific barangays depends on the results of a series of community assessments to determine their needs, interests in participating in the AMORE project, and capacity. Key component of the community assessments include determination of barangay members willingness to organize in order to manage energy system operation and cost-recovery, and the identification of high-value applications of electricity that will be made available outside of domestic lighting including productive, social and rural livelihood applications.

Under this Task, Winrock works with communities in establishing the local institutions and capability for managing the energy systems, as well as identifying and preparing livelihood projects employing renewable energy--such as seaweed and fish drying—and key social applications of energy such as potable water supply, communication and education facilities. To ensure local involvement in decision making and planning for rural energy projects that will affect the community, and to implement rural energy projects that support social and economic development, the AMORE Team used participatory approaches to identify communities' needs, and to solicit input from the communities on electrification projects. Specifically, Winrock and its associates worked with the communities and LGUs in the identification, planning, implementation, and management of RE and sustainable livelihood activities, including.

- Team building
- Community organization
- Participatory resource and needs assessment and planning
- Community needs assessment for various energy services
- Problem analysis/preparation of project components
- Pre-investment study analysis for each livelihood project proposal
- Preparation of detailed implementation plan, including institutional arrangements
- Project management and organization

Winrock and its subrecipient partners worked to organize the recipient households in the barangay into the BRECDAs, which played a critical role in facilitating and coordinating rural electrification activities in the barangay, and serve as the key link between the Winrock Project Team and the local community, and are responsible for establishing and operating the Community Operations and Maintenance Funds. Each BRECDA has a minimum membership base of 30 participants, representative of the initial 30 households that AMORE has energized. In some cases, non-participant households enlisted in the BRECDAs to involve themselves in the various skills-training workshops and livelihood seminars.

Winrock utilized both direct-hire staff and subrecipient partner staff as community development workers for new and existing barangays. This included working closely with Mindanao-based community development NGOs⁵ active in predominantly Muslim communities to perform its community organizing work in selected barangays, in coordination with the Project's field implementation offices in the ARMM and Western and Central Mindanao. Such NGOs, staffed mostly by local residents, not only facilitated the Project's community organizing work in these difficult areas, but also served to widen the prospects for the replication of the Project's sustainable rural electrification approach in similar communities in Mindanao. This included work in Maguindanao, South Cotabato, Sultan Kudarat and Davao, through both the

⁵ See Annex C for a listing of all subcontractors commissioned for the Program.

Maguindanaon Development Foundation, Inc. and the YAMOG Renewable Energy Development Group, Inc., work in Basilan with the Yakan Ministry Foundation, Inc., and most recently work with a local NGO in Tawi-Tawi, the Muslim Upliftment Foundation of Tawi-Tawi, Inc. (MUFTI).

To facilitate community mobilization and ensure the proper operation and maintenance of the RE systems and management of the community's self-raised O&M funds, the participating households in each community were guided and assisted in organizing themselves into a Barangay Renewable Energy and Community Development Association (BRECDAs). The BRECDAs served as the Project's community counterparts, participating in installing or constructing the RE systems, operating and maintaining them including collecting and managing the funds needed to do such, protecting the systems from theft and damage, and planning and executing measures to expand the Project's electrification initiatives in their barangays to more households and for more socioeconomic applications. Cases have even been reported of BRECDAs that have spearheaded negotiations between local warring clans (which are common between some Muslim ethnic tribes in Mindanao) or with Muslim secessionist groups to put an end to conflict, so as to perpetuate the Project's development initiatives in their areas. Over the course of the AMORE project, 203 barangay associations or BRECDAs have been established as legal, functioning entities, registered at the Philippines' Department of Labor and Employment (DOLE), with bank accounts with various rural banks, and will be managing energy systems and related O&M Funds and pursuing livelihood development activities.

A Field Implementation Manual was produced⁶ as a standard reference for community organizing across all areas. The local NGOs were given flexibility to introduce appropriate innovations in the Manual in their respective areas of assignment and to incorporate lessons learned and suitable responses, which made the Manual a living document.⁷ In areas where local appropriate NGOs were unavailable or unable to cover all the community organizations needs, Winrock hired local community development workers (CDWs)—most of them Muslim—to perform community organizing and capacity-building in the covered communities.

To progressively measure the BRECDAs' capability to sustain their RE systems, their organizations, and their communities' development, a ranking index called the BRECDAs Capability Index (BCI) was created.⁸ Annex F lists down all the BRECDAs organized under the Project and their organizational capability ratings at the close of the project.

2. Establishment of Mechanisms for Community Financing

Although the capital equipment for energy supply for community services and enterprise activities under the AMORE project were provided on a subsidized basis, a system was put in place to collect funds on an on-going basis to be used to cover recurring expenses and to maximize sense of ownership among beneficiary communities. These funds were used essentially to operate, maintain, and repair the energy systems.

⁶ See Annex C for the AMORE Field Implementation Manual.

⁷ Refinements in the Program's initial community organizing approach, which is described in its Field Implementation Manual (Annex C), are discussed in sections IX and X of this document.

⁸ See Annex E for a brief discussion of the BCI.

Winrock worked closely with the BRECDAs to develop a collection mechanism that was appropriate to their needs and conditions. A one-time subscription fee of PhP1,000 (\$18) and BRECDA membership fee of PhP 100 (\$1.82) were collected from each household, plus a monthly fee that was put into a Barangay Operations and Maintenance Fund.

There were differences in the monthly fees based on the type of energy system put in place, i.e. battery charging stations (BCS), solar home systems (SHS), or microhydro systems. Exhibit 1 shows the breakdown of the monthly fees for BCS and SHS users.

Exhibit 1: Monthly End-User Fees Using Battery Charging Stations and Solar Home Systems

| Battery Charging Stations | Solar Home Systems |
|--|--|
| Battery charging fee (PhP35 per battery charging x 2 times charging per month, to cover community BCS operator's and technician's wages, plus cable and clamp replacement): PhP 70.00 (US\$1.27) | BRECDAs O&M service charge (to cover BCS technician's wages): PhP35.00 (US\$0.64) |
| | Monthly lease-to-own fee (25% of the SHS cost over 5 years): PhP118.00 (US\$2.15) |
| 50% Battery replacement cost ⁹ (with the other 50% to be paid by the BRECDA upon battery replacement after 2 years ¹⁰): PhP68.00 (US\$1.24) | Battery replacement cost (41.67%, with the balance to be paid by the BRECDA member upon battery replacement after 2 years): PhP125.00 (US\$2.27) |
| Cost of transporting ULAB to recycling depot ¹¹ : PhP11.00 (US\$0.20) | Cost of transporting ULAB to recycling depot: PhP11.00 (US\$0.20) |
| Livelihood capital build-up: PhP11.00 (US\$0.20) | Livelihood capital build-up: PhP11.00 (US\$0.20) |
| TOTAL: PhP160.00 (US\$2.91) | TOTAL PhP300.00 (US\$5.45) |

The fee structure for SHS users was based in part on the BCS structure, which was developed earlier. However, for the SHS, Winrock introduced a cost recovery component in the O&M fund contributions, i.e. a monthly lease-to-own fee, which covered 25% of the cost of the SHS. This figure was based on the BRECDA members' ability to pay.

⁹ It was found that most households would not be able to afford the monthly O&M Fund contributions should monthly advances for the full battery replacement cost, with projected inflation, be charged, and that this is the highest level of advances that they could afford.

¹⁰ The normal battery lifespan.

¹¹ For the battery recycling, the Program worked with Philippine Recyclers, Inc. (PRI). Winrock signed a memorandum of understanding with PRI, the ABS-CBN Foundation's *Bantay Baterya* ("Battery Watch") project in September 2004 for the recycling of ULABs in the Program's PV sites.

The livelihood capital build-up component was incorporated into the fee structure on the premise that these income-generating projects would enhance their capacity over time to finance the full replacement cost of their batteries and eventually, of their solar PV panels.

For the two sites where the Project shouldered all costs for the construction of microhydro power systems, the monthly O&M Fund contribution per household was based on the following components:

- 25% microhydro power system cost recovery charge (over 20 years)
- BRECDA O&M service charge
- Administrative charges (for the microhydro power system manager's honorarium, the bookkeeper's honorarium, the collectors' fees, and office supplies and materials)
- Salaries of the microhydro power system operators (2 operators x PhP150/operator/day x 15 days average per month)
- Environmental charges (for reforestation or watershed management activities)

Given the significant site-specific differences for micro-hydro including the different system capacities and corresponding costs of the microhydro power systems, sites as well as their BRECDAs' different total number of members, the resulting monthly O&M Fund contribution levels per household need to be developed on a case by case basis. For example, in Barangay Lam Alis residents agreed to a monthly fee of PhP214.00 (US\$3.89).

These O&M Funds were deposited monthly into bank accounts that each BRECDA opened for this purpose. At the close of the project, the BRECDAs had collected total O&M Funds of **PhP8,224,771.79 (US\$149,541)**.

3. Community Training and Technical Assistance

To ensure the successful operation of renewable energy projects in the target communities, training activities were conducted under the Project. A comprehensive training plan for the duration of the project was prepared to identify training needs in more detail. Inputs to this training plan included an evaluation of local community capabilities and needs assessment for training and technical assistance support. Although the primary audience for training activities were the local communities (households, businesses, NGOs, cooperatives, etc), other key stakeholder groups were included as well.

Following is a list of trainings conducted under the project as part of the effort to develop and strengthen the BRECDAs and organize and prepare the communities.¹²

- Participatory Rural Appraisal (PRA)
- Basic Leadership
- RE Operation and Maintenance
- Basic Financial Management
- Basic Entrepreneurship
- Skills for Income-generating Projects (IGPs) and Enterprises
- Project Proposal Preparation
- Participatory BRECDA Assessment Tool (ParBAT)¹³

¹² See pp. 37-113 of the original AMORE Field Implementation Manual in Annex C for these training programs' specific designs.

Hands-on trainings and cross-visits were interspersed with classroom-type lectures to maximize the BRECDAs' absorption of the knowledge and skills taught. There was also a significant amount of "learning-by-doing work" with Winrock Team members. For the two micro-hydro projects, for instance, Winrock staff persons with expertise in designing and implementing micro-hydro projects worked closely with partner NGOs like YAMOG and SIBAT, project staff, and BRECDAs.

At the end of each training course, participants were asked to complete a brief survey form to assess the value of the content and presentation of the training and materials provided. Post-training assessments were also conducted to evaluate whether skills had been effectively transferred. In situations where it was apparent that BRECDAs had not fully absorbed what had been taught, trainings were repeated.

Training of trainers (ToT) was also performed. Ensuring that a knowledgeable, educated base of local NGOs, enterprises, cooperatives and other entities exist to continue to pursue the implementation, operation and replication of the work begun in the USAID project is an important component in longer term sustainability.

4. Preparation and implementation of a communications plan to replicate sustainable rural energy development

The AMORE project implemented a significant number of information, education, and communications (IEC) activities, both in order to support implementation of the project and in order to highlight the USAID and US Government commitment to supporting peace and development in Mindanao. These IEC activities included: preparation of information materials; organization of public events and for a; preparation of articles for publishing in the local press; and the development of the AMORE website and initial information database. The highlight of the project's information outreach campaign occurred in Year Two, with the ceremonial energization by the President of the Philippines, President Gloria Macapagal-Arroyo, of all barangays under the project on January 13, 2004 at the Malacañang Palace, in the presence of visiting US Secretary of Energy Spencer Abraham.

The AMORE project's comprehensive information, education, and communications (IEC) activities served multiple purposes. It supported the other components of the project, through strengthening the delivery of information and messages to project beneficiaries and stakeholders. The IEC activities played an essential role in publicizing the USAID and US Government commitment to peace and development in Mindanao. Finally, the IEC activities were essential for ensuring that other donors and stakeholders—including private donors such as Mirant Philippines—receive the public recognition that they need in order to justify providing continued support to the project. USAID/Philippines had emphasized the importance of an effective strategic communications plan that will serve as an information-sharing mechanism to promote the advantages of community RE electrification projects based on strong community participation. Winrock has developed and implemented an IEC plan that supports fast and

¹³ BRECDAs were taught how to monitor and evaluate their progress towards their goals, identify their organizational strengths and weaknesses, reinforce their strengths, and improve on their weaknesses, using the same mechanism employed by the Program for these purposes.

accurate sharing of information among stakeholders and potential participants. The principal IEC tasks include: a) website development and management b) information dissemination, and c) media and public relations.

Through the IEC activities, AMORE promoted the expanded use of RE technologies to regional and national audiences and to attract more contributing partners. Winrock has been very successful in its media outreach efforts, including the publication of numerous favorable newspaper articles on the AMORE project, and as a result supporting the 'public diplomacy' activities of USAID. This included preparation of success stories and other relevant news and feature articles will be continuously developed for publication in some of the Philippines' major newspapers, and for subsequent placement on the AMORE Project Website. Other IEC activities included: facilitating networking with LGUs and other key stakeholders via focused presentation materials; promoting enhanced communication with beneficiaries via project and technical comics, primers, newsletters, radio feeds and videos in applicable local dialects; and strengthening BRECDA's IEC skills to promote community organizing and networking with external entities, via a BRECDA-focused IEC skills training program.

Winrock effectively utilized electronic web-based media for transmitting information on project results and progress, newsletters, best practices, and recommendations for communities and LGUs wishing to emulate the successful RE projects. This will include continuing to refine and update the website in order to provide easier and faster access to information about the Project's objectives, goals, developments and progress updates. The website included a project database with information on the participating barangays, renewable energy installations, and other relevant project installations.

The IEC activities have facilitated many barangays' acceptance of and active participation in the Project, and helped to forge partnerships with numerous public- and private-sector entities for the greater benefit of the said barangays. By using multimedia tools such as comics, posters, stickers, banners, flyers, information kits, videos and other electronic presentations, a website with an online project implementation database, national and local print and broadcast publicity, Internet publicity, site visits, and exhibits, among others, to tell stories of poor, unelectrified and conflict-affected villages in Mindanao being transformed into brightly-lit, peaceful, and self-driven communities, the Project has planted the seeds of its recognition as "a model rural electrification program." Another highlight of the IEC efforts was the official proclamation by ARMM Governor Dr. Parouk Hussin of the third week of February, the Project's anniversary, in 2004 and 2005 as BRECDA Week throughout the ARMM region, in recognition of the BRECDAs roles as "viable mechanisms for promoting peace" (from t. This week was punctuated with BRECDA-led celebrations in AMORE-covered communities, public exhibits on AMORE and the BRECDAs, and media-based national and local communications campaigns on the BRECDAs as viable grassroots development entities.

5. Livelihood and social projects

While household electrification was the primary focus of the AMORE project, the project also supported the economically and socially productive use of renewable energy in order to increase rural incomes and development, and supports social or community applications of renewable energy in order to improve quality of life and build human capital. AMORE livelihood and social project activities began in earnest in Year Two, and were primarily focused primarily on identification and preparation of projects for implementation in Year Three, and on implementation of selected pilot and demonstration projects. This included conducting

participatory assessments of the resources in the community and the status of the existing livelihood activities of the people, and assisting communities in identifying new livelihood opportunities or options for improving their existing livelihood activities. AMORE Community Development Workers (CDWs) and Livelihood Specialists then assisted communities to do feasibility studies to ensure that projects' technical and financial viability are carefully examined.

Productive livelihood projects implemented in Year Two included a micro hydro-powered integrated grain and bean mill installed in Saloy, and a solar-powered fish processing and drying demonstration project in Pababag, Tawi-Tawi. Additional productive livelihood projects were supported including grain drying, high value vegetable production with RE-powered micro-irrigation, grain and coffee milling, ice-making for fish preservation, fish drying and processing, aquaculture, and improved seaweed production and drying. These are discussed below

The AMORE project took advantage of the Saloy hydro project to demonstrate a number of livelihood and social projects or applications, in part in order to show the range of benefits that micro hydro power can provide. These included the multi-purpose grain and coffee bean mill, support for high-value vegetable production through drip irrigation, watershed rehabilitation, and a planned small computer telecenter in partnership with the Philippine Department of Science and Technology (DOST) which will also support the computerization of the Saloy Multipurpose Cooperative's business operations. In addition, plans had been made to support the two community schools to access TV-based distance education had been planned, including installation of a satellite dish to provide the Knowledge Channel programming to the elementary and secondary schools, and the e-Media DVD library of basic educational programming. The education support activities are currently on hold due to Mission concerns about possible overlap or conflict with other education programs.

In order to strengthen livelihood projects and increase prospects for sustained economic development, Winrock understood it was important to link AMORE barangays with existing sources of livelihood project financing, technologies and markets. Winrock worked with the Department of Agriculture's (DA) Quedan and Rural Credit Guarantee Corporation (QUEDANCOR), to establish a Php25million (\$446,429) non-collateral, low-interest micro-loan facility for AMORE livelihood projects. QUEDANCOR has already released initial loans amounting to Php380,000 (\$6,786) for seaweeds projects of 38 BRECDA members in Tawi-Tawi. In January 2004 the AMORE Project partnership with the DA was further strengthened through a formal MOU with the DA's Bureau of Postharvest Research and Extension (BPRE) and Bureau of Fisheries and Aquatic Resources as well as with the Seaweeds Industry Association of the Philippines in January 2004 for technical, business development, and marketing support for BRECDAs' livelihood projects.

The AMORE Social Projects were intended to help barangays meet their basic minimum needs through improved access to basic quality social services such as education, telecommunications, and health and sanitation through productive use of clean renewable energy systems. In Year Two the groundwork was laid for rural telephony projects, one or more water supply projects, and possible school electrification activities. This included the demonstration of solar energy for remote rural telecommunications via the establishment of an RE-powered, satellite-based public calling office in partnership with SMART Communications under their "Connecting Communities" program¹⁴, preparation of an assessment of water supply

¹⁴ Inter-barangay conflict—a key challenge of the program—and other reasons drove the closure of the PCO after only three months of operations. The conflict inhibited residents of two adjacent barangays from using the PCO,

needs and options for Basilan and Tawi-Tawi, and work with DOST and private groups engaged in distance education to identify possible energy for ICT projects for implementation in Year Three.

AMORE I facilitated the installation of public telephones in eight underserved localities and provided a source of electricity in the barangays to operate satellite and cellular payphones and to recharge personal cellphones. The public telephone activities produced varied results, and did not last long enough to support conclusive findings (the majority were launched between August and November 2004). The most financially successful payphone micro-business, located in Barangay Kalian, generated an average monthly profit of Php834 (about US\$15) over the four months of results monitoring¹. Field experiences clearly showed that fixed satellite phones were not viable when cellphone coverage was available or came to a previously unserved community. For the GSM payphones, BRECDA revenues were largely driven by the sale of airtime to private cellphone owners via an electronic load (e-load) function.

There were preliminary indications that the community payphones had a variety of positive benefits for women in the barangays. Four of the community phones were operated by women (including Kalian); the phones reportedly facilitated the sale of BRECDA women's products to major cities such as Marbel; and two payphone operators indicated that more than half of their barangay customers were women. The impact of BRECDA community payphones on women's livelihoods, status and feelings of isolation vs. inclusion is a subject that deserves further investigation in order to understand the second- and third-order impacts of barangay electrification.

Discussions with DOST focused on possible support for one or more multi purpose community telecenters (MCT). As a result of its work elsewhere on rural ICT projects, Winrock had reservations about the appropriateness of full-scale MCTs—such as DOST had implemented on a pilot basis in 4 barangays—for AMORE barangays, and Winrock was in favor of implementing a smaller, simpler type of telecenter or ICT facility. For Saloy, Winrock, DOST, and community stakeholders reached agreement on a modest telecenter that also supports computerization of the multi-purpose cooperative's business operations.

In a second 'energy for ICT' activity, in support of rural education, Winrock worked to identify educational counterparts involved or interested in rural distance education, where renewable energy could be used to extend the distance education programs into rural barangays. Plans were made to collaborate with two private entities supporting distance education: the Knowledge Channel Foundation and the ABS-CBN Foundation's e-Media Program. Agreement in principle was reached with the Knowledge Channel Foundation to help extend the Knowledge Channel to at least 10 AMORE Barangays in 2004, through installation of satellite dishes and power systems to provide the Knowledge Channel programming to elementary and secondary schools. Agreement was also reached in principle with the ABS-CBN Foundation to provide the e-Media DVD library of basic educational programming, televisions, DVD players, and the necessary power systems to at least 10 barangays in 2004. Both the Knowledge Channel and the ABD-CBN Foundation are interested in larger collaborations to help their efforts reach unelectrified communities. These activities to support rural education through renewable energy were placed on hold in late 2003 at the request of the AMORE CTO, in order to avoid possible duplication or conflict with an emerging USAID education program. This resulted because the

reducing the PCO's revenues and leading to its closure. Steps are being taken to reduce the risk of like problems elsewhere, including feasibility studies and the consideration of other appropriate telecommunication modes.

USAID Mission instituted a new Strategic Objective (SO) focused on education in Mindanao, and USAID wanted the new Education SO team to launch its program and approve any subsequent education-related energy activities. (Winrock and partners have now recommenced these energy for distance education activities—with USAID concurrence—under the SERED and AMORE 2 projects.)

VI. SUSTAINABILITY FOCUS AND MECHANISMS

One major goal of the AMORE Project was to develop and demonstrate more sustainable approaches to off-grid rural electrification, improving on the approaches previously employed by the Philippine Government. The main elements of this involved the above-described focus on community organizing and training to ensure community buy-in and proper operation and maintenance of the RE systems, establishment of community-based organizations to manage the energy systems, and establishment of cost-recovery mechanisms for long-term O&M costs. There are a number of other activities or mechanisms that the project has taken to maximize the prospects for the longevity of its results, which are briefly described below.

Supporting Establishment of Solar Parts and Service Centers

While the Project has adequately trained community technicians to troubleshoot its installed RE systems, the need still existed for local shops and service centers where the BRECDA members could purchase spare parts for their systems and have them repaired for more serious problems. Local hardware stores and electronics service centers were thus identified and informed about the Project's deployment of solar PV and MHP systems in various barangays in their area, to alert them on this new and emerging market and to encourage them to stock up on the needed spare parts and ensure their technical capacity to repair such RE systems. An RE Service Center Forum was organized in Central Mindanao in June 2004 that brought together local hardware/electrical suppliers and service centers and the BRECDAs, which resulted in the establishment of a network of RE parts suppliers for the BRECDAs and the forging of a win-win agreement between the BRECDAs and the suppliers for the supply of reasonably-priced RE replacement parts and services. Later in the Project, SSPC, Mirant's partner for the supply of PNOC's Dutch-subsidized SHSs for the Project, offered to establish RE service centers in areas where the Project has installed at least 900 SSPC-supplied SHSs as part of the latter's SHS package. This latter activity is being pursued under AMORE 2.

Demonstration and Training on Productive-use RE Applications

While the Project focused predominantly on household and communal lighting applications due to explicit directions from USAID/Philippines in the course of the project, as described above it also demonstrated a number of productive-use RE applications in its more participative barangays, in many cases with support from other partners. These applications were meant to demonstrate to the BRECDAs and train them on the use of their RE systems not only for household lighting but also to enhance their existing livelihood, so as to increase their buy-in in the project as well as their financial capacity to sustain their RE systems and their communal development. This holistic development approach was strongly endorsed by former DOE USEC Cyril del Callar. Annex G lists the productive-use RE applications that the Project established, where they were implemented and with which partners, and the status of each at the end of the Project.

Demonstration and Training on Social RE Applications

The Project also supported sub-projects involving a number of social RE applications that the Project established again in its more participative barangays. As with the abovementioned productive-use RE applications, these social RE applications were meant to demonstrate to the Project's community partners and train them on the use of their RE systems to enhance their quality of life and strengthen human capital formation. This was done both to maximize the benefits of the project, and to further strengthen the communities commitment to sustaining the project's development initiatives. Annex H lists the social RE applications that the Project

established, where they were implemented and with which partners, and the status of each at the end of the Project.

Technical Assistance in the Implementation of Non-RE-related IGPs and Social Projects

The Project's efforts to maximize the prospects for the sustainability of the RE systems it installed in Mindanao did not end with abovementioned productive-use and social RE applications. One of the purposes of the BRECDAs was to identify different community development activities that could be implemented, including projects not involving energy or renewable energy per-se. The AMORE Program Description clearly envisioned providing technical assistance for such non-energy-related community development efforts. The Project Team helped the BRECDAs pursue viable income-generating projects as well as social projects where no RE inputs could be made, so as to further enhance their financial capacity to sustain their RE systems as well as to further improve their quality of life. For the non-RE-related livelihood projects, the Project gave the BRECDAs technical assistance in the form of training on new and more productive livelihood technologies. For the non-RE-related social projects, on the other hand, the Project sourced funds from the Embassy of Japan in Manila with which it constructed a potable water system in Barangay Chua, Bagumbayan, Sultan Kudarat and trained the users, who included non-BRECDAs members, to properly operate and maintain the system. The AMORE project also supported rehabilitation of the existing rainwater catchment system in Barangay Tictabon in Zamboanga City and taught the community to properly operate and maintain it. Annex I lists the non-RE-related livelihood projects in which the Project extended technical assistance to the BRECDAs, and the non-RE-related social projects supported.

Establishment of Technical, Financing and Marketing Linkages

Aside from training the BRECDAs on new and more productive livelihood technologies to enhance their RE systems' sustainability prospects, the Project also linked them up with entities that could provide them further technical assistance, as well as additional funds and marketing support. Such entities are included in Annex J, which lists all the Project's partners and the support they extended to the Project's participating communities.

Federation of BRECDAs

Perhaps one of the best sustainability mechanisms employed by the Project was the creation of BRECDAs federations (i.e. regional groupings or networks) for sharing of best practices and lessons learned, and of skills, time, resources and networks, towards fortifying prospects for their achievement of their common goals. As such, these federations will also lay the slate for interprovincial consultation and support that would be a good breeding ground for peace promotion in these war-torn regions. The BRECDAs were federated by geographical clusters—municipally in the case of widely dispersed island barangays, and provincially or even regionally where feasible. A total of 14 BRECDAs Federations were organized: six Tawi-Tawi and two Sulu municipal federations, three provincial federations (Tawi-Tawi, Basilan, and Zamboanga Sibugay), one city federation (Zamboanga City), and two regional federations (Davao and Central Mindanao).¹⁵ These federations are expected to assist the BRECDAs in carrying on with the Project's initiatives after its term, and to eventually become strong grassroots-based NGOs supporting sustainable development and peace. As with the BRECDAs therefore, the Project assisted each of the BRECDAs federations in forming its own constitution and by-laws, electing its own set of officers, and formulating its own plans. One federation, that of Tongkil, Sulu, has been registered as a legal entity with the Securities and Exchange Commission (SEC)

¹⁵ Annex K lists down the names, office addresses, and officers of these federations.

to facilitate its transactions with funding agencies and various other public- and private-sector entities. Another federation, that of Siasi, Sulu, has already applied for SEC registration.

BRECDAs Federation Capacity-building

To prepare the BRECDAs federations for their critical role in sustaining the Project's development initiatives, they were given trainings on leadership and organizational management and on community organizing. One challenge they had to wrestle with, however, was how to raise funds to sustain their operations. The provincial federation also has a pending application with SSPC to operate a Shell Service Center in Bongao. The strong partnership between the Project's Area 1 Office (covering the provinces of Tawi-Tawi and Sulu) and the Tawi-Tawi provincial government paved the way for the provincial BRECDAs federation's inclusion, in March 2005, in the Tawi-Tawi Provincial Development Council, thus giving the BRECDAs in the province a strong voice in charting their own progress and a window for active participation in pursuing such progress.

Women's Empowerment

Women from many participating barangays emerged as dynamic agents for progress and sustainability under the Project. In many cases due to the greater time that they could devote to community assemblies and other activities under the Project compared to the men, they were elected to lead a number of BRECDAs. There have been some very successful examples of female-led BRECDAs. To cite an example, the first BRECDAs on record to raise enough funds to purchase its own SHS with which it spread the benefits of electrification to more households in its barangay (Tumalutab, Zamboanga City) is led by a woman. The AMORE Project incorporated measures from the beginning to support women's participation in the BRECDAs, giving them the same opportunities as men to take part in the Project's capacity-building activities, and conducting special trainings for them on livelihood projects to enable them to augment their families' income, and freeing up women. The example of the BRECDAs women's achievements prompted the Project to consolidate its efforts by organizing a BRECDAs Regional Women's Council¹⁶, through which they have come up with their own plans to sustain their BRECDAs and their communities' development. In so doing, the Project has created a groundswell of support for the BRECDAs that would hopefully strengthen the prospects for the latter's achievement of their goals.

Youth Empowerment

Looking beyond the present generation of BRECDAs, the Project began to involve the youth in community development activities to mold a new generation of BRECDAs leaders who have the values, attitudes and skills needed to effectively sustain their RE systems, their organizations, and their communal progress. The youth were particularly good candidates for sustainability champions for the Project, as they are among the sectors that benefit the most from the AMORE-introduced electric household lights, through which they now have more time to study at night. BRECDAs Youth Development Associations were formed that are mostly tasked to provide logistical support to BRECDAs activities. To nurture young minds for greater knowledge and nobler pursuits, a community-volunteered reading center for the youth was equipped with a Solar lighting system in Barangay Talitay in Buluan, Maguindanao, that enabled young people from unelectrified households in the village to study and read books.

¹⁶ Annex L lists down the officers of the BRECDAs Regional Women's Council.

VII. CHALLENGES ENCOUNTERED AND RESPONSES

The AMORE faced multiple challenges, both anticipated and unanticipated, to project implementation, including a number related to the chronic problems with violence and to the extremely low incomes prevalent in the project region. Each of these challenges are discussed below, followed by a description of how the Project responded to these challenges.

Peace and Order Challenges

Given that the Project was designed specifically for remote, conflict-affected areas in Mindanao, peace and order challenges were, of course, expected. There were a number of peace and order challenges including those related to rebel forces and the Armed Forces of the Philippines (AFP), conflicts related to personal political rivalries, clan wars and other inter-clan conflicts, and other peace and order-related problems. Encounters between Muslim secessionist groups and the military caused temporary cessation of the Project's field work in affected barangays in several instances and evacuations of barangays by residents, and prevented the Project from energizing its last five barangays in Sulu. In a few instances, Project staff were threatened by rebel groups suspicious of the U.S. Government's intentions in Mindanao. Political rivalries and clan wars, facilitated by widespread access to military-type assault weapons, resulted in murders and mass evacuations, and claimed the lives of a BRECD member and his son in Tabunan, Panglima Sugala, Tawi-Tawi. Thirty-six PV panels were lost (31 in Tawi-Tawi, four in Basilan, and one in Zamboanga City), of which only two were recovered in Tawi-Tawi. Illegal drug trafficking worsened the peace and order situation in some barangays and prompted a shooting spree by a drug-crazed local in a village in Tawi-Tawi while Project staff were there, who were fortunately able to take cover. The same drug dependent wreaked havoc in his village's BRECD, as he bullied all the BRECD members into electing him as an officer and thereafter pilfered their O&M Funds.

Of course the Project could do nothing to stop rebel-military encounters in its areas of operation and could only closely monitor risks and advise its staff accordingly as well as closely monitor its staff's movement and help the affected communities. In some cases BRECDs themselves that initiated dialogues with the Moro Islamic Liberation Front (MILF) and the New People's Army (NPA) for these rebel groups to cease hostilities in their areas so that the BRECDs and their co-villagers could sustain the AMORE Project's development initiatives in their barangays. Nevertheless, close partnerships between the Project's Area Offices and the local government units as well as informal leaders in the Project's participating barangays gave the Project field workers legitimacy and widespread acceptance. The AMORE Project's active and sustained local and national publicity efforts on its objectives and accomplishments also helped create positive public perception about the AMORE Project and USAID intentions. The trust Project staff earned from community member through months of participatory community organizing and by virtue of the Project's meeting its commitments, prompted community members to protect the field staff and the RE systems.

In some cases conflicts even served as the catalyst for community organizing, as in the case of Barangay Kalumenga in Datu Paglas, Maguindanao, for which the Project conducted community organization while the villagers were in an evacuation center in a neighboring barangay after their village became a battleground between the military and rebel groups. Their bitterness over their lost homes and livelihood, and the Project's messages of hope and opportunities for rebuilding their lives gave the people a zealotry to participate in the Project, impose a ban on firearms in their barangay and declare it a peace zone, and pursue

development partnerships outside the Project that have made them a showcase among AMORE barangays.

Close LGU partnerships also led to police attention to local crimes and specifically put a stop to the theft of Project-installed PV panels. The BRECDAs' heightened vigilance after the initial thefts contributed significantly to the cessation of these crimes.

Coordination Among Stakeholders and Reconciling Stakeholders' Interests and Agendas

One key challenge facing Winrock was coordination among the different stakeholders, particularly the funders—USAID and Mirant—and the principal Philippine Government stakeholder, the DOE. In some cases the challenge was simply one of coordinating efforts, making sure that different parties were able to move in a timely fashion. In other cases, problems arose because of a need for some stakeholders to have certain activities completed rapidly, which could impact quality. One example of the latter was the need for the project team to move very rapidly in early to mid 2002 on the electrification of the first 10 'fast-track' barangays in Basilan. The desire on the part of USAID and DOE that the Project exceed its electrification targets and maximize the number of barangays electrified required that we make adjustments in the project design including a relative scaling back of the productive livelihood and social projects. While the project was able to exceed electrification targets by 25% (200 barangays instead of 160), the time and funding devoted to electrification of the 40 additional barangays came at the expense of reduced livelihood and social projects and reduced the magnitude of the positive impact that the project was able to have in the first 160 barangays.

Extreme Poverty in Many Project Barangays

The very low incomes prevailing in many of the AMORE Project barangays presented a series of challenges to the project. This included expectations in many cases that the Project would fully fund both the RE systems and any livelihood or social projects, resistance to establishment of O&M fee structures that would fully recover O&M and replacement costs, and temptation to use O&M funds for other high priority needs (e.g. livelihood projects, medical emergencies). Most, if not all, the barangays wanted funds for livelihood projects over and above their RE systems. Thus, in organizing its covered communities, field workers had to be very careful with what they said so that they would not be misconstrued as promising anything beyond what the Project was ready to offer. With careful social preparation, the communities grew to understand the value of making counterpart contributions to the Program's development initiatives in their areas, which increased their stake in the Project, their commitment to work together for the Project's success, and their capacity to bring about their own development beyond the Project's term. Through continued careful explanations by field staff on the necessity for the increase of the contributions and with the introduction of staggered and more creative payment mechanisms, these BRECDAs showed signs of being able to catch up with the later-organized BRECDAs by the close of the Project. BRECDA officers were tempted at times to use their organizations' O&M Funds for their personal needs, or for livelihood projects, in part based on the argument that the Funds belong to the members and that they could therefore use them as they pleased, despite clear provisions in their self-formulated constitutions and by-laws on the legitimate and illegitimate uses of such funds. This situation was aggravated by the fact that many of these communities have never been organized before, so that the O&M Fund mechanism gave them their first experience in having their own ready pool of funds to easily draw from. Sustained Project guidance on the need for the BRECDAs to preserve their O&M Funds for their intended purposes, to adhere to their organizational rules and regulations, and to choose leaders with integrity; continued leadership skills and values training; working with the BRECDAs to progressively finetune their financial control procedures; and building their capacity to raise funds through other means and channels helped curb this problem.

Physical Hazards of Travel to Far-flung Islands and Uplands

Travel by Project staff to remote barangays in the course of the project's implementation resulted in a number of potential tragedies that fortunately ended on a positive note. On one occasion, an inter-island boat carrying an REE was reported missing en route to an initial barangay technical survey, and the boat and passengers were rescued six days later off the coast of Indonesia, where the boat had drifted. (Unfortunately, the REE could not be found earlier because he could not bring along a Project-supplied homing beacon, as he had departed directly from his home island for the field.) On another occasion, strong waves capsized a boat carrying Project staff to another barangay. The staff—including two female CDWs—stayed afloat on the sea with their lifevests for two hours until nightfall, before they were found by the barangay locals who were able to communicate, using their RE-powered ICOM radios, with locals from the barangay from whence the staff came. Two other cases of capsized boats were reported later on in the Project. Winrock recognized at the outset of the project that small-boat travel between islands presented one of the main risks to staff safety, and addressed this through several measures including: providing water safety training for field staff; purchasing a sufficient number of high quality inflatable personal flotation vests (life vests); and purchasing a number of Emergency Position Indication Radio Beacons (EPIRBs) or Position Locating Beacons (PLB) for use by staff.¹⁷ The Project has also invested in communications and other safety equipment, and provided staff with insect repellent. At least two staffers were infected with malaria, and for AMORE 2 Winrock is researching availability in-country of higher-quality, longer-lasting insect repellent.

Complex Barangay Clearance Process

Before formally entering any barangay, the Project made it a policy to clear its energization under AMORE with the DOE, the Philippine government's central agency for barangay electrification. This was intended to ensure that the barangay was as yet unelectrified, that no other entity was due to electrify it, and that the Project's electrification of the said barangay would effectively reduce the number of unelectrified barangays in the country, as listed by the DOE. In a number of instances, however, barangays cleared by the DOE for Project electrification and subsequently entered, or entered *and* energized, by AMORE were later connected to the grid, as was Barangay Lasangan in SK Pendatun, Maguindanao. To avert such cases, the Project's Area Offices made it a point to ask the concerned electric cooperatives (ECs) for waivers of their electrification of DOE-cleared barangays for AMORE electrification. While this measure prevented the recurrence of the problem in many instances, Barangay Saloy in Calinan, Davao City, which the Project had energized with micro-hydro power with the UNDP and Green Empowerment and the electrification of which the local EC had earlier waived in favor of the MHP system, was later on connected to the grid due to sudden funding from the local congressman. Barangay Klubi in Lake Sebu, South Cotabato, on the other hand, which was cleared by the DOE and the local EC for AMORE electrification with an MHP system, was already being organized and was awaiting the construction of its MHP system when the local Congressman again suddenly provided funds for its connection to the grid. In other cases, barangays that wanted to participate in the Project were not cleared by the DOE because they were allegedly already energized, although when Project staff visited these barangays, they turned out still unelectrified.

¹⁷ EPIRBs or PLBs automatically broadcast an emergency signal indicating location, which is received via satellite and immediately relayed to US or UK search and rescue authorities, and then transmitted to local search and rescue authorities (e.g. Philippine Coast Guard), all maritime commercial vessels, and US naval vessels.

To resolve these issues, the Project implemented a policy that it would energize only barangays cleared by the DOE and that it would not energize any barangay, even one cleared by the DOE, that was within 5 kilometers of an active power transmission line; for which the local EC had not issued the Project a waiver of electrification in the Project's favor; and for which the Project was not able to secure an assurance from the local congressman that s/he had no plans of energizing the said barangay. While these mechanisms are not foolproof, Winrock believes they were the most it could do to ensure that its community organizing and electrification efforts, as well as funds from USAID and the Project's other partners, would not be put to waste.

Skepticism/Cynicism of Barangay Residents

One very interesting challenge early in the project was the skepticism or cynicism that many barangay residents expressed upon hearing of proposed electrification activities, with many expressing doubt that the Project would deliver on its promises. The skepticism seemed to arise from two factors: first, a sense of having been neglected (or worse) for many years by the government; and second, having experienced many unfulfilled promises by different politicians and agencies. Due to this pre-disposition towards cynicism or skepticism, any early delays would tend to confirm these thoughts. The Project overcame this through simply delivering on its commitments, which would promptly solve the problem. It was very common, following system installation, to have beneficiaries confess that they had been very skeptical. This became less of a problem as the Project progressed and developed a track record that more people were familiar with, and developed informational materials documenting past installations.

Land Tenure and Resource Use Conflict

In Barangay Chua in Bagumbayan, Sultan Kudarat, one of the Project's MHP sites, a local group, the Sinagandal Upland Farmers' Cooperative, claimed that the area where the BRECDA members were residing and where the MHP powerhouse was constructed was within its Community-Based Forest Management (CBFM) agreement area with the DENR. Some key CENRO staff supported the claim, but further validation by the Project's Area Office revealed that most of the CBFM holders were not Chua residents. In addition, reports of corruption, illegal logging, and other irregular activities of the cooperative were gathered. The CBFM holders demanded that the MHP project be stopped pending their approval of it. The BRECDA members reacted strongly, emphasizing their claim that they were the ones who developed the area and who have been living in it for more than 30 years already. To make matters worse, the leaders of the opposing groups were former MNLF commanders who took opposing sides when their movement went through a major organizational split. Heated debates and threats were exchanged and both groups geared towards what appeared to be armed conflict. In response, the Project's Area Office invited the leaders of the two groups to various dialogues. Key officers and offices such as the Municipal Mayor, CENRO, and the Office for Muslim Affairs (OMA) were invited to assist and mediate. After more debates and failed meetings, the MHP project was eventually completed, CENRO's requirements were submitted, and the Mayor, CENRO, and OMA expressed their full support for the project.

VIII. BEST PRACTICES

One striking accomplishment of AMORE was its success in catalyzing people's participation in the Project, without which it would have been just another RE-based rural electrification project that would not have made any significant contribution to the development of a sustainable RE-based rural electrification strategy especially for the most difficult sites of all to energize—i.e., poor, off-grid, conflict-affected areas. From the communities it organized and energized, to the public- and private-sector entities it partnered with, AMORE was able to inspire people to believe in its cause and to commit their time, effort and resources to the achievement of its goals. This section focuses on how the Project was able to do this.

Adaptation of Community Organizing Approaches to Fit local Conditions

Winrock embarked on the Project equipped with experience in organizing off-grid communities in other countries for RE-based electrification, and experience elsewhere in the Philippines. The AMORE Project, by virtue of its being situated in a region with a long history of unresolved religious, ethnic and political hostilities, posed an especially difficult challenge that necessitated adapting the community organizing approach to fit the particular local conditions, culture, needs and aspirations of the people in each community, and obtaining their explicit consent and endorsement. Such an approach, while not easy and which in many instances evolved from lessons learned in the course of the Project's implementation, was most effective in overcoming hostilities and winning the communities' trust, which was a prerequisite for eliciting their full participation in the Project.

Community Counterparting

While a 'dole-out' or dependency mentality was often prevalent in the communities entered by the Project, the inherent pride of the Mindanao peoples in themselves, their religion and culture, their land and their sovereignty, and the consistency and persistence of the Project staff, eventually made the communities understand and appreciate the value of working for their own development. The road from a dole-out mentality to community participation was long and difficult, however—and to shorten the road and make it easier to trek, all possible avenues for the promotion of community participation were tapped. For instance, the Project employed such measures as community assemblies; participatory rural appraisal; BRECDA assemblies for the formulation of constitutions and by-laws and plans, the election of leaders, progress monitoring, and the discussion and resolution of issues; communal O&M Funds build-up and management; BRECDA training and cross-visits; IEC materials pre-testing and evaluation; participatory BRECDA assessment; and providing labor and supplies as a counterpart contribution. to inculcate in its covered barangays the value of community participation in bringing about their own development.

Utilization and Development of Local Talent

An important measure that enabled the Project to win the trust and cooperation of its communities was its employment of local CDWs and NGOs for community organizing and where possible for technical tasks. These people spoke the same language, wore the same outfits, ate the same foods and observed the same customs as the community residents, and in some cases even used to have the same sentiments as their more militant co-villagers, as in the case of former MNLF combatants on staff. The Project hired as CDWs some BRECDA officers and members who demonstrated unusual skill and commitment to their people's development. As such, the community locals were able to relate to them easily and to trust them, and corollarily, to trust the Project for which they worked and which trusted their own people enough

in return to hire them to do its work. These CDWs also served as efficient translators of the Project's IEC materials into the local dialects, valuable feedback channels on what the communities truly thought and felt about the Project's initiatives, keen sources of insights on how the communities could be most effectively organized, and most reliable implementers of the Project's activities. In addition, in many cases, local CDWs also saved the Project the effort of pulling out staff from its sites where armed conflict has broken out, thus minimizing the disruption of the Project's implementation.

Development of Local Leaders and Promotion of Better Self-governance

An initial given in the Project's implementation was the culture of autocratic rule in Muslim communities, which allowed one man to dictate who was to participate in the Project and control the formulation of the BRECDA's constitution and by-laws, election of leaders, disbursement of funds, and identification of projects for implementation. While there were cases when the presence of such a strongman proved auspicious in terms of preventing dissension, it nevertheless posed a threat to the success of the Project in terms of the very real possibility of the autocrat's unchecked excesses, and in the longer term, of the non-continuity of effective BRECDA leadership. Through leadership skills capacity-building and persistent and consistent encouragement of democratic practices, the Project was able to develop new leaders and democratic governance paradigms among the BRECDAs.

Holistic Development Approach Based on Community Empowerment

AMORE differed from other RE-based rural electrification projects because of the primacy it gave to community empowerment for sustained self-development, of which RE-based electrification was treated as but a part. Due to this, the Project not only electrified communities for household and communal lighting purposes, but also capacitated them for productive and social RE applications and other self-development initiatives to trigger long-term socioeconomic development.

Multisectoral Alliance-building

The Project's abovementioned holistic approach to rural electrification necessitated partnerships with as many public- and private-sector entities as possible not only for the provision of RE systems under the DOE's missionary rural electrification program for IPPs, but also to bring in the communities' much-needed technical, financial and marketing assistance for productive and social RE use projects, as well as for non-RE-related IGPs and social projects. In fact, these partnerships turned out to be symbiotic, in that in turn, they paved the way for the introduction of various public entities' services and private entities' social responsibility programs in AMORE's remote, conflict-affected sites, as in the case of the Philippine Department of Agriculture's Quedan and Rural Credit Guarantee Corporation (QUEDANCOR), IBM Philippines, and ABS-CBN E-Media. These partnerships also boosted the Project's contributions to USAID's Global Development Alliance (GDA) program, which invites increased private-sector participation in the agency's development projects, and even promoted inter-country cooperation in the project through funding assistance from the Embassy of Japan for a potable water system in Sultan Kudarat. In addition, close partnerships with LGUs in the Project's sites not only extended protection to, and facilitated wide acceptance of, AMORE's field staff, but also channeled LGU funds for the barangays' expressed needs and in the case of Tawi-Tawi, even paved the way for the Provincial BRECDA Federation's participation in the Provincial Development Council.

Proactive Information-Dissemination

IEC became a primary and particularly effective vehicle of the Project in generating widespread acceptance of and support for its initiatives in Mindanao, and in broadcasting both the viability of renewable energy and the necessity for strong community participation in achieving sustainable

rural electrification, as inputs to other rural electrification projects both of the government and IPPs and as a springboard for the Project's possible replication in other similar communities in Mindanao and elsewhere in the country. Moreover, these efforts contributed to wider grassroots acceptance of US initiatives and motives in Mindanao, and contributed to peaceful development efforts and rendering remote communities less fertile ground for recruitment by terrorists (e.g. Abu Sayaf).

IX. LESSONS LEARNED

This final section lists down the lessons that the Project learned in the course of its implementation, the sharing of which would hopefully help other entities implement better rural electrification projects right from these projects' inception, with more chances of success in improving people's lives and with greater prospects for the sustainability of their results. While most of these lessons were identified early enough in the Project for them to be integrated in its implementation, the Project shall also use these lessons to develop an even better rural electrification approach for its follow-on project.

Early achievement of modest but concrete accomplishments are very useful in establishing credibility with rural communities

The earlier that a project can deliver tangible benefits to community members—even if modest—the sooner that community residents will view the project as a credible partner. While this is true in many different settings, it is even more essential in areas where inhabitants either feel they have been long-neglected or where their relationship with the Government has been primarily negative (e.g. areas of Mindanao where much of the population was open to the idea of secession).

Communities generally prefer solar home systems to battery charging stations, despite the former's higher corresponding cost recovery and O&M Fund contributions.

Solar home systems turned out to be the preferred PV technology in the Project's covered barangays due to their individual ownership, which also facilitated their safeguarding from theft and damage; the convenience they provided of not having to carry heavy batteries all the way to the BCS; and their capacity to power low-energy-consuming household appliances such as black-and-white TVs and transistor radios over and above household lights. This was despite higher O&M Fund contributions, of 300 pesos/month versus 160 pesos/month.

Micro-hydro power, where feasible, is the most preferred RE technology because of its capacity to energize more households and to power more electrical household applications as well as productive and social RE applications.

The Project was able to energize only three barangays with micro-hydro power in part due to the lack of hydro resources in some of the high priority provinces (e.g. Tawi-tawi, Basilan, Sulu, Zamboanga), and in part due to the system's higher start-up cost per barangay compared to that of PV systems. Nevertheless, the MHP systems are able to energize much more households compared to the PV systems, and generate enough energy per household to power not only household lights but even low-energy-consuming household appliances such as black-and-white TVs, transistor radios, and electric fans, and depending on a system's capacity, may even power color TVs and refrigerators. In addition, several productive and social RE applications were implemented in these three MHP sites in partnership with various public- and private-sector entities, and the presence of water supply also paved the way for the construction of a spring-fed, gravity-type potable water system for 100 households in one of these sites through funding from the Embassy of Japan in Manila.

Grid electrification is still more highly preferred to RE-based electrification, though.

The barangays cleared by the DOE for RE-based electrification under the Project but that were later on unexpectedly connected to the grid voted hands-down for grid electrification when made to choose between the two systems. This is not at all surprising, as grid-based electricity service provides sufficient power for productive livelihood loads, and reliance on the electric

utility relieves community members from the time and effort to manage their own power system. To prevent wastage of funds for RE systems as well as for community organizing and capacity-building, therefore, great care should be taken to ensure that communities to be energized with RE systems are far enough (at least 5 kilometers away) from the grid to make their grid electrification unlikely; have been cleared by the DOE for RE-based electrification; and have waivers of electrification from the concerned ECs and congressional representatives.

The will of people to bring about their own development is more powerful than poverty and conflict.

The BRECDAs have shown that despite their poverty, they can raise enough funds to operate and maintain their RE systems if they put their minds and wills to it. In addition, the Sulu BRECDAs—which, despite the ongoing war between the military and the MNLF in their province, topped the list of the project’s best-performing BRECDAs—have proven that when people are determined to pursue their own development, war cannot stop them. The most important factor in any development project may thus very well be the beneficiaries’ developmental resolve, such that finding and choosing communities with such resolve would give the project the greatest assurance of success.

Development needs strong, disciplined, visionary and dynamic leaders, on one hand, and committed and conscientious followers, on the other.

The Project has noted that its best-performing BRECDAs are led by people who exhibit the resolve to bring about their communities’ real and sustained development, and comprise members who tirelessly give their time, effort and resources to collectively realizing their goals. Developing effective leaders and members should thus be a paramount concern of any development project that is bent on organizing its beneficiaries as its key sustainability agents.

ANNEXES

ⁱ Terminal Report on Smart Talk and Text Public Calling Office, April 29, 2005, p.9.



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Putting Ideas to Work

ALLIANCE FOR MINDANAO OFF-GRID RENEWABLE ENERGY PROJECT ANNEXES

July 2005

This publication was produced for review by the United States Agency for International Development. It was prepared by Winrock International.

**ALLIANCE FOR MINDANAO
OFF-GRID RENEWABLE
ENERGY PROJECT**
FINAL PROGRAM PERFORMANCE REPORT
ANNEXES

DISCLAIMER

The author's views expressed in this publication do not necessarily reflect the views of the United States Agency for International Development or the United States Government

ANNEX A

Original Cover Sheet, Executive Summary, and Program Description

Mindanao Off-Grid Rural Electrification (MORE) Project

RFA No. 492-01-003: Renewable Energy Development Program
Proposed Associate Cooperative Agreement
Under Leader with Associates Cooperative Agreement
No. LAG-A-00-99-00037-00

Submitted to

U.S. Agency for International Development
Manila, Philippines

Submitted by

Winrock International
Arlington, Virginia USA

In collaboration with

Preferred Energy, Inc. (PEI)
SIBAT Sibol ng Agham at Teknolohiya (SIBAT), Inc.
YAMOG Renewable Energy Development Group (YAMOG)
Alternative Energy Development-Philippines (AED-P)
New Mexico State University (NMSU/SWTDI)
National Renewable Energy Laboratory (NREL)
Maguindanaon Development Foundation, Inc. (MDFI)

January 29, 2002

List of Acronyms

| | |
|------------|--|
| ADB | Asian Development Bank |
| AED/IRG | Alternative Energy Development/International Resources Group, Ltd. |
| AEGIS | Agro-Enterprise Growth and Investment Support Project |
| APL | World Bank Rural Power Sector Adaptable Program Loan |
| AREP | Accelerated Rural Electrification Program |
| AusAID | Australian Agency for International Development |
| CCPSP | Coordinating Council for Private Sector Participation |
| CEM | Credit Enhancement Mechanism |
| CPC | Community Power Corporation |
| CRMP | Coastal Resource Management Project |
| DA | Department of Agriculture |
| DAR/SPOTS | Dept of Agrarian Reform/ Solar Power Technology Programme to Agrarian Reform Communities |
| DENR | Department of Environment and Natural Resources |
| DEVCOs | Development Companies |
| DFI | Development Finance Institution |
| DOE | Government of the Philippines Department of Energy |
| DOF | Department of Finance |
| EC | Electric Cooperatives |
| ECFC | Electric Cooperative Finance Corporation |
| ENR-SECAL | World Bank Environment and Natural Resources - Sectoral Adjustment Loan |
| ERC | Energy Regulatory Commission |
| ESMAP | World Bank Energy Sector Management Assistance Program |
| GEF | World Bank/Global Environmental Facility |
| GOP | Government of the Philippines |
| IFC | International Finance Corporation |
| IPP | Independent Power Producers |
| IRPES | Department of Agriculture's Infrastructure for Rural Productivity Enhancement Sector |
| IRR | Implementing Rules and Regulations |
| JFPR | Japan Fund for Poverty Reduction |
| JICA | Japanese International Cooperation Agency |
| LEAP | Livelihood Enhancement and Peace Project |
| LGU | Local Government Units |
| LWA | Leader with Associates Cooperative Agreement |
| MDFI | Maguindanaon Development Foundation, Inc. |
| MNLF | Moro National Liberation Front |
| MOU | Memorandum of Understanding |
| MSIP | Municipal Solar Infrastructure Project |
| NCED | DOE Non-Conventional Energy Division |
| NEA | National Electrification Administration |
| NGO | Non-Governmental Organization |
| NPC | National Power Corporation |
| NMSU/SWTDI | New Mexico State University/ Southwest Technology Development Institute |
| NRECA | National Rural Electric Cooperative Association |
| NREL | National Renewable Energy Laboratory |
| NRM | Natural Resource Management |
| PDF | Project Development Facility |
| PEI | Preferred Energy, Incorporated |
| PPA | Power Purchase Agreements |
| PV | Photovoltaic |
| RE | Renewable Energy |
| REPSO | Winrock's Renewable Energy Project Support Office |
| RESCO | Rural Energy Service Company |
| RFA | Request for Application |
| RRMP | Regional Resource Management Project |
| SARAR | Self-esteem, Associative strengths, Resourcefulness, Action planning & Responsibility |
| SIBAT | Sibol ng Agham at Teknolohiya, Incorporated |
| SIR | Shell International Renewables |
| SMB | Small Modular Biopower |
| SPUG | Small Power Utilities Group |
| SZOPAD | Special Zone of Peace and Order |
| UNDP | United Nations Development Program |
| USAID | United States Agency for International Development |
| VECO | Visayan Electric Company |
| WI | Winrock International |
| YAMOG | Yamog Renewable Energy Development Group, Incorporated |

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A. Cover Sheet

Grant Application: RFA No. 492-01-003: Renewable Energy Development Program,
Under Leader with Associates Cooperative Agreement
Number LAG-A-00-99-00037-00

Proposal Title: **Mindanao Off-Grid Rural Electrification (MORE) Project**

Submitted By: Winrock International
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Maguindanaon Development Foundation, Inc. (MDFI)
New Mexico State University (NMSU/SWTDI)
National Renewable Energy Laboratory (NREL)

Grant Request: \$7,997,202 million

Matching Funds: \$2,915,282 Winrock International and other non-USG sources (27% of Total Budget)

Total Budget: \$10,912,483

Summary: This application proposes activities to support electrification of rural communities using renewable energy systems in Mindanao. It will include the development, implementation and monitoring of a renewable energy program focusing solely on the electrification of at least 160 barangays in ARMM, Western, Central, and Southern Mindanao, linked to income generating activities wherever practical.

This project supports broader Mission objectives related to poverty alleviation, economic growth, environmental sustainability, and peace and order in Mindanao. The Community Preparation activities will emphasize working with communities on project preparation and organization, focusing on social preparation activities including community consultation, development needs assessment and preparation of livelihood and community infrastructure projects (e.g., school and clinic electrification), securing community participation and buy-in, and building local technical and financial capacity. The expected outputs of these Community Preparation and related activities are the following: (1) at least 160 Barangays electrified under the Missionary RE electrification program, primarily based on private sector funding, with a strong community participation component; (2) mechanisms for community financing of the operation and maintenance of the rural energy systems established; (3) a communication plan implemented to replicate sustainable rural energy development; and (4) community training and technical assistance to ensure the long term sustainability of the systems installed.

Timeframe: This program will begin on the date USAID/Philippines approves this Award or on a subsequent date selected by USAID/Philippines and will continue through September 2004 to coincide with the completion date of the Mission's Strategic Objective.

B. Executive Summary

Purpose of Document. This document provides a revised Program Description for an Associate Award under Winrock International’s Leader with Associates Cooperative Agreement (Number LAG-A-00-99-00037-00), “Increased Use of Renewable Energy Resources.” This program description reflects guidance provided by the USAID Philippines Mission in letters from Ma. Rosario Arenas to Richard Brown, Winrock Vice President, dated December 21, 2001 and January 18, 2002.

Goal and Anticipated Results. The purpose of this proposed Associate Award is to electrify over 160 barangays in Mindanao, particularly those in the ARMM and Western, Central and Southern regions. The project will also increase incomes and enhance economic and social welfare of recipient communities.

Approach. Activities will include establishing sustainable renewable energy (RE)-based rural electrification projects through development of strong community participation and effective social preparation, including community consultation, development needs assessment and preparation of livelihood and community infrastructure projects, securing community participation and buy-in, and building local technical and financial capacity to effectively manage RE systems. This project will focus primarily on social/community preparation for RE projects funded by Independent Power Producers (IPP) and other private sector entities as part of their legal obligation to fund “missionary” (i.e., subsidized) electrification projects. In some cases this social preparation work will also be done in support of projects funded or financed by agencies including local government units (LGUs).

Relation of Project to Broader Winrock Activities in the Philippines. In 1999, USAID issued an RFA for the Increased Use of Renewable Energy Resources Program (RFA No. USAID/G/ENV/EET 99-01). Winrock International was awarded a Leader with Associates Cooperative Agreement (LWA) that involves country-specific activities in about 10 USAID-assisted countries, and broader crosscutting activities in the areas of policy, institutional strengthening, business mobilization, and financing facilitation. In the Philippines, Winrock has been implementing activities under this LWA Cooperative Agreement to: (a) support and facilitate private sector RE project and business development; (b) assist in the development and demonstration of innovative project and service delivery models; (c) leverage increased multilateral and private financing for renewable energy; and (d) strengthen the local RE private sector.

Strong Project Management Capability. For this project we propose Mr. Inocencio Bolo as interim Deputy Chief of Party. The position of Chief of Party is temporarily open but will be filled by a candidate who is approved by both USAID-Manila and Winrock International. Mr. Bolo has over 35 years of experience in agricultural and rural development in Asia, including more than 30 years in the Philippines. He has worked on projects in Muslim Mindanao for almost seven years. He has wide-ranging experience in agricultural extension services, training, adaptive research, and the organization and management of production programs aimed at the development of rural enterprises. Mr. Bolo is an expert in organizing and conducting training programs for specialists, trainers, extension workers, and farmers. He has served as Chief of Party for a prior USAID project, and currently is Winrock’s Philippines Country Director.

Experienced Team. Winrock has assembled a highly qualified team composed of staff members, Preferred Energy, Inc. (PEI), SIBAT Sibol ng Agham at Teknolohiya (SIBAT), Inc., YAMOG Renewable Energy Development Group (YAMOG), Alternative Energy Development/Philippines

(AED-P), Maguindanaon Development Foundation, Inc. (MDFI), the National Renewable Energy Laboratory (NREL), New Mexico State University Southwest Technology Development Institute (NMSU/SWTDI) and several consultants. The team brings strengths in RE, rural electrification, rural development, community organization and social preparation, and has worked with LGUs on project development and implementation, and development of productive livelihood projects and community infrastructure.

C. Program Description

I. Background and Understanding

Project Summary: This project is designed to provide support for community electrification projects in Mindanao, focusing on assistance to the private sector in community or social preparation. This objective supports the Government of the Philippines Department of Energy (DOE) policy of relying in part on Independent Power Project (IPP) operators and other private firms to cofinance and implement rural electrification projects. Winrock will support IPP-funded off-grid barangay electrification through community participation activities, including an intensive consultation process to identify community needs and requirements and to assess capacity; define roles and secure commitments from the community to ensure its sense of project ownership; and build local technical and financial management capability to ensure effective operation and maintenance of the RE systems. The MORE project will also support \$1,095,403 in renewable energy system investments using USAID funding through direct both direct procurement and project implementation grants. The project will attempt to utilize this funding in a catalytic manner, and to leverage IPP and other third party funding. This project will support broader USAID objectives of fostering social and economic development and peace and order in Mindanao.

The energy technologies that will be used in the assisted communities--with project funding from non-USAID sources as well as USAID funding--will include renewable energy technologies such as solar photovoltaic or PV, small-scale pico-hydro and micro-hydro, wind, hybrid, and biomass energy that are inherently non-polluting. The micro-hydro projects would involve very small “run-of-river” systems or small plants in existing irrigation canals that do not involve construction of retention dams and reservoirs nor affect stream flow and downstream riparian environments. While in some cases projects may involve small electricity distribution grids within a community, this will be in already settled areas and involve no significant cutting of trees. This is in contrast to rural electrification based on grid-extension—not supported under this project—that can involve significant tree cutting.

Energy Sector Overview: The Philippines is conducting a thorough restructuring of the power sector, including privatization of the National Power Corporation’s (NPC) generation assets. The recent passage of the power sector restructuring legislation sets the stage for this long-anticipated process. The legislation and resulting Implementing Rules and Regulations (IRR) will eventually affect delivery of rural electrification services to unserved barangays in a number of ways. The IRR will also impact the development of new generation capacity to serve island and isolated grids¹ whose generation requirements are largely met by the large diesel power plants operated by

¹ To avoid confusion, it is important to distinguish between community “mini-grids,” which typically serve one or two barangays through a small off-grid power plant such as micro-hydro or diesel, and “island and isolated grids” consisting of electric cooperative (EC) distribution grids that are not connected to the main

the Small Power Utilities Group (SPUG). Given the extensive renewable energy resource base available in the Philippines, including solar, hydro, wind, biomass and geothermal energy, these technologies can make a significant contribution to meeting energy requirements in the country, particularly in rural areas.

In particular, over 20% of the Philippine population, approximately 17 million people in over 3 million households, most of them in rural areas, lack access to electric service. According to the Philippines DOE, approximately 8,000 barangays are classified as unelectrified, and an estimated 20% to 50% of these would be served most economically by "off-grid" RE systems such as micro-hydro, solar photovoltaic (PV), or hybrid power systems, or by small diesel generators. In addition, even though a portion of a barangay may be electrified, there are many unelectrified households in neighborhoods or "sitios" where the grid cannot be cost-effectively extended, and where off-grid RE power systems could be lower life-cycle cost electrification options. **Exhibit 1** presents some of the renewable energy and renewable/fossil fuel hybrid power systems options that are available for decentralized rural applications. These include photovoltaic (PV) conversion of sunlight to electricity, wind electric turbines, wind / PV / fossil fuel hybrid power generation units, small-scale bioenergy conversion², and hydroelectric power generation. Diesel generation units are also an important and widely used decentralized power option. All of these technical options can provide reliable and high-quality energy supply provided there is a competent local infrastructure that can assure operation, maintenance, and repair of the equipment

The Government of the Philippines (GOP), through the Department of Energy (DOE), has developed the Accelerated Rural Electrification Program (AREP), or *O Ilaw* Program, to "energize" all barangays throughout the country. The *O Ilaw* program integrates the activities of a number of different types of entities, including local government units (LGUs), NGOs, and independent power producers (IPPs); this integration is especially important as many of the projects involve multiple players and sources of funds. The GOP has requested financing from the World Bank (WB) for support of the electrification program, and a World Bank-financed project is currently being prepared. Winrock has been providing assistance to the World Bank and World Bank Energy Sector Management Assistance Program (ESMAP) during the loan preparation process and during the preceding ESMAP activity that led to the loan request.

The DOE has asked IPPs in the Philippines to support the *O Ilaw* program in two ways:

1. To advance funding under I-94* to provide electricity to host communities either through grid extension or installation of off-grid RE; and
2. To "Adopt a Barangay" as a result of their corporate social responsibility in alleviating poverty in remote areas. Mirant Corporation, for example, has contributed \$20 million for grid extension-based electrification of 1,000 barangays. In both scenarios, the IPPs and USAID/Philippines have expressed deep concern over the sustainability of such a barangay electrification program.

national transmission grid. For the latter, the majority of the power generation capacity is provided by the SPUG through multi-megawatt thermal power plants, usually diesel-cycle engine-generator sets fueled by diesel fuel or bunker C oil.

² Small scale bioenergy conversion systems are in the near commercial stage, however demonstrate significant promise for off-grid rural electrification. In sites where the resource base exists and these technologies are promising, we will install systems as a pilot project with back up technologies identified in cases where problems may occur. More detailed information on small, modular biomass systems are provided in Attachment 1.

* I-94 is the DOE circular requiring power generators to contribute P.01/kwh to the host communities to finance missionary electrification, watershed management, and livelihood development projects.

In addition to the IPPs, other private sector energy project developers and manufacturers of renewable energy equipment are also involved in the AREP. Additionally, the Government has tapped international and bilateral agencies for funding in connection to GOP RE-sponsored projects of the DOE, Department of Agrarian Reform, and Department of Interior and Local Government. These include USAID and the World Bank, the Asian Development Bank (ADB), UNDP, AusAID, JICA, the Belgian Government, and the Spanish Government, among others.

In order to support the government's thrust to provide electricity to all barangays by 2006 through AREP, both the public and the private sectors have implemented various projects and activities. These have involved energy resource assessments, market profiling, institutional strengthening, capacity building, rural power strategy formulation and implementation, and private sector investment opportunities, among others. Bilateral and multi-lateral assistance has been extended to the Philippine Government to augment local resources to conduct preparatory activities and rural electrification projects.

Why Mindanao? Mindanao is an island that accounts for more than one-third of the landmass of the Philippines, and approximately one-fourth of the country's population. Currently the poorest region in the country, indicators show that the quality of life in Mindanao is well below the national average. Nevertheless, Mindanao has the potential for substantial and accelerated economic growth, with opportunities in small farming, fishing, and small business development. Several donors and development finance institutions (DFIs) are active in the region, including USAID, UNDP, the European Union, Australia, Japan, the World Bank, ADB, and others. A key priority of many of the donors is to promote equity and peace in the region, particularly among the Muslim population of Mindanao.

Renewable Energy and Agro-Enterprise Development in Mindanao. Lack of access to reliable electricity in rural Mindanao is one of the important factors that inhibits opportunities for the development and operation of many enterprises. Adding value to fishing and agricultural production is an important way to grow beyond the functions of subsistence and simple raw material supplying. Although reliable, affordable energy is a vital input in a variety of agricultural and post-harvest processes, the conventional method for supplying electricity, by linking to the national or regional electricity grid, is logistically unfeasible in some parts of the province. Fortunately, there are decentralized commercially proven alternatives to conventional grid extension that can be employed to support expansion in rural enterprises that will increase jobs and incomes. Many of these alternatives are technically viable, even in remote rural areas. Renewable energy technologies are an important subset of the decentralized alternatives that are now commercially available and increasingly used in the agriculture sector.

Electricity and modern fuels are prerequisites in shifting the conditions in Mindanao to significant sustainable economic growth. Reliable and reasonably priced energy is a critical factor for many aspects of improved or value-added agricultural and post-harvest processes. This applies equally to livestock and fish processing as well as aquaculture, i.e. to rural *agro-enterprise* in general. Energy also enables more intensive agriculture by providing irrigation (pumps) and immediate post-harvest treatment (cooling) and storage. Applications include the use of electricity for ice making, refrigeration (crops, produce, fish, etc.), food processing, shops, and other income generating activities. Some applications such as irrigation and ice making may not require fuel-fired generator backup for regions that are fairly windy or sunny all year.

In addition to the central role of energy in economically productive processes, it is also often essential for socially productive applications such as assuring sufficient volumes of potable water,

and for other community applications including modern schools, health facilities, telecommunications, and government offices. In the case of Tawi-Tawi for example, experience of the GEM and Municipal Solar Infrastructure Project (MSIP) have shown that potable water supply is a key problem in the region, requiring analytical attention in both problem clarification and solution identification (i.e. energy and water pumping/treatment packages). Improved access to information and communication technology (ICT) systems, ranging from simple rural telephony to lower-cost wireless connectivity options (e.g. e-mail, internet) can provide access to economically useful information, strengthen education, and reduce remote communities sense of isolation.

**Exhibit 1. Renewable and Fossil Energy Technologies Relevant to
Off-grid and Mini-grid Electricity Applications in Agriculture and Food Production**

| Technology | Experience Worldwide | Commercial Status and Applications |
|--|---|--|
| Photovoltaics (from tens of watts to several kilowatts) | Extensive, 1,000 MWp installed globally. Global production = 250 MWp/year in 2001 | Fully commercial, very wide range of applications including off-grid community uses. Agricultural uses: Water pumping / small-scale irrigation, lighting, low-power agricultural processing. Significant experience in Mindanao for community services, through the MSIP. |
| Small wind electric turbines (300 watts to 10+ kWe) | Extensive internationally, but virtually unused in the Philippines | Commercial, and evolving rapidly; well-suited for water pumping for small-scale irrigation, and battery charging applications (for running lights and communications), and for use in hybrid power systems |
| PV/diesel hybrids (20 - 500 kWh/day) | Extensive internationally, especially for telecommunications. A few installations in the Philippines. | Fully commercial and the preferred option for remote telecommunications, commercially evolving for village power and rural agricultural applications, but an expensive source of power (ca. \$1/kWh). |
| Wind/diesel hybrids (20 - 2,000+ kWh/day) | Significant, not yet extensive; important potential for repowering some SPUG diesel power plants. | Commercial, often competitive with diesel gensets, and evolving. A few such hybrids are in village power applications in the Philippines. |
| Small modular biopower (5 kWe to 50+ kWe) | Commercial prototype installations operating reliably in the US and in Aklan province. Commercial production in the Philippines projected for years 2003/4. | A 15 kWe commercial prototype has been installed in Aklan by Community Power Corp. and Shell Renewables. Very large potential for providing electricity and heat to coconut processing and high value product production. Innovative business operations underway in Aklan could be widely replicated in Mindanao. |
| Cycle-charge diesel systems (batter/inverter added to diesel genset) | Used in remote power applications, and for village power in some countries including rural Australia | Fully commercial. Especially applicable when low-power daytime electricity is required for isolated 24-hour powered community minigrids. |
| Bioenergy (0.5 MWe -- 20+ MWe) | Extensive, in wood and agro industries worldwide, especially southeast Asia, and in most OECD countries. | Commercial site-engineered systems, relevant only to the extent that sustainable sources of biomass residue are available locally. Implementation in the Philippines has been inhibited for institutional and local political reasons. |
| Microhydro (0.1 kWe - 100 kWe) | Extensive, with good experience in many developing countries (e.g., China, India, Indonesia, Philippines) | Fully commercial; wide variations in design, performance, reliability, and price. Extensive applicability in Mindanao. |

The MORE Project will explore and catalyze opportunities to incorporate practical energy technologies for productive uses in Mindanao. These include agricultural, fishing, aquaculture, and livestock production and processing. The focus of this project is more on the economically and socially productive use rather than consumptive uses of energy, although household energy supply from decentralized and dispersed energy systems will also be applied. The project will work to identify specific investment opportunities to couple decentralized renewable energy-based supply with income generating activities, and with key social infrastructure. We believe that this is an essential dimension of any programmatic efforts to significantly improve the peace and order situation in Mindanao and to increase popular rejection of socially radical actions that reflect, in part, the relative lack of investment in productive infrastructure in much of the province. The project will support a number of different approaches to management and operation of off-grid power systems, including community-level barangay power associations, operation by existing producers groups (e.g. agricultural or multi-purpose cooperatives), or possibly in some cases by for profit rural energy service companies (RESCOs). The latter is an emerging approach to the large-scale application of decentralized energy systems and services, where the RESCOs own the energy equipment and charge for energy services on a fee-for-service basis. This frees farmers, entrepreneurs, and businesses to focus on income generation and not on energy supply, and relieves them of both the financial and technical risks associated with the energy production equipment. In many of the MORE project areas, security or risk considerations will likely preclude RESCO approaches. It may be feasible to engage the private sector in providing such services if the costs and risks of doing so can be sufficiently reduced, so that the capacity of local communities to pay for such services can match the revenue required for the services to be sustainable and profitable operations. Based on prevailing incomes in the project area, and rural energy survey consumption and expenditure data from elsewhere in the Philippines, it is likely that such an approach would require significant capital cost subsidies if the acceptable level of monthly payments from households are to cover the O&M costs. It appears that for poorer rural areas of the Philippines that only when the power or cogeneration systems are an integral part of a local profit-making enterprise is it possible to also provide household energy on a financially sustainable basis.

Identification of Preferred Energy Technology Options and Applications. In identifying the preferred technology options for implementation in this project, we will consider the following:

1. *The specific use of energy.* Each step in the chain of food production, processing, storage, and packaging uses mechanical, thermal, and/or electrical energy. The peak power requirements (rate of energy delivery), the average demand for energy, and energy quality are all essential specifications. For heat, this means specifying the form of thermal energy (hot water, steam, hot air, etc.) and the temperature. For electricity, it means the peak and average power demand, the hours of availability, and the quality of the power in terms of frequency and voltage stability, lack of electrical “noise”, etc.
2. *Types of energy sources and technologies that best cover the identified needs.* There are a variety of energy sources and energy equipment available, and they need to be selected in terms of their match to the end-use energy needs of concern.
3. *Supportive infrastructure:* Sustainable use of any energy equipment requires that there be a competent and reliable local infrastructure to maintain, service, and repair the energy systems under consideration.
4. *Available energy supply.* Questions to pose are: Is there a functioning and reliable infrastructure for other energy sources such as natural gas or diesel? Are renewable

sources available such as biomass residues, good wind resources, streams and rivers, and strong sunlight?

5. *Costs.* While the initial costs of capital and expertise of renewable energy systems may sometimes be higher than those for fossil fuel based systems, the subsequent savings in fuel costs, replacement costs, and maintenance over the life of the system can be substantial. The availability of financing may determine whether the end user chooses low capital cost options or low life-cycle cost options.
6. *Opportunities and interests in producing own energy within the business.* By converting crop residues, energy can be produced through biomass fermentation, combustion, pyrolysis, or gasification.
7. *Secure energy supply.* Questions to pose are: How sensitive is the process to disruptions in energy supply? Is the area electrified and if so will this be a primary or a backup system? How reliable is the national grid or the delivery of other energy?

Renewable energy installations typically have higher initial costs and lower running costs than fossil fuel systems. When investment decisions are made on a first cost basis, diesel and propane (or LPG – liquefied propane gas) electrical gensets may be selected even if over the long run they are less reliable and more expensive than a renewable energy option designed to provide the same energy service. Basing investment decisions on first costs often undervalues the lower-cost long-term operation of renewables relative to fossil fuel plants. It also ignores the significant uncertainty in long-term fuel prices and availability. The costs of most renewable energy installations are "front end loaded", so the long term costs and net present values of these systems are much more predictable than installations in which unpredictable fuel costs dominate the long-term system costs. The USAID project can minimize the ongoing costs associated with sustainable operation of the energy systems if reliable renewable energy systems are purchased. Fuel costs are eliminated or, in the case of hybrid power systems, substantially reduced compared with purely fossil fuel units.

In locations where it is feasible, micro-hydro will often be the preferred technology option due to the relatively low cost of power and ability to provide the higher amounts of power required for certain productive uses such as milling or ice-making. In locations where solar PV systems are the most appropriate option, the higher unit costs of PV may make it necessary to focus on relatively higher value applications such as lighting, communications, potable water supply, livestock watering, small-scale irrigation pumping, and key social infrastructure such as schools and clinics. These can involve either PV solar home systems or PV-powered battery charging stations that can charge batteries for use in homes. Due to cost considerations and budget availability, at times it may not be possible with PV systems to electrify community infrastructure, productive uses, and provide each household with its own power system; and it may be necessary to settle for more targeted electrification and provision of more limited services to households. As discussed briefly above and in Attachment 1, small modular biomass systems offer significant potential for rural areas of developing countries. Recognizing the potential for these technologies in the U.S. and in the developing countries, the U.S. Department of Energy (DOE) has supported development of these power systems. It appears that some early commercial systems may be available during the MORE project operating period, and the project will explore whether support for a number of these systems is warranted.

Exhibit 2 illustrates specific applications of renewable energy technologies for agro-enterprises. All of the applications presented are in use in some places and, using available commercial equipment. However, applications that are common in some regions may be little used or virtually unknown in other regions, even if the circumstances in the latter case are favorable for the use of these applications. A few of the applications are novel, and not well known. An

example from Winrock/USAID work in southern India is the use of PV-powered lanterns in a simple highly-effective pesticide-free mechanism to destroy voracious insects and thus reduce post-harvest losses of certain cereal crops from 50% to less than 10%.

Exhibit 2. Small-scale Agricultural Applications for Renewable Energy Systems

| Agricultural Application | RE System Type | Typical Peak Power Range (peak kW) |
|---|---|--|
| Irrigation (especially drip irrigation and micro-spray techniques, sometimes incorporating fertilizer delivery) | PV, wind electric submersible and floating pumps, microhydro power generation | 1 - 3 |
| Chicken egg incubation | PV lights (solar thermal heating) | |
| Crop spraying | All renewable energy power generation | |
| Livestock watering | PV, wind electric submersible and floating pumps, electric heating to prevent water freezing | 0.5 - 1 |
| Electric fencing (grazing management), gate opening | High-voltage current-limited supply from PV, wind electric, with batteries, inverters, transformers | 20 - 100 watts (50 watts for 15 km of fencing) |
| Farm lighting (including security and safety of scattered buildings) | PV/battery system lighting (typically low-voltage DC, fluorescent lamps) | 50 - 500 watts |
| Forced ventilation in greenhouses, crop dryers (coffee, tea, sesame seeds, etc.) | PV-driven fans | 0.1 - 1 |
| Coffee drying and processing | Coffee husks used as fuel for biomass furnaces to provide heat for drying and processing; small-scale geothermal energy sources; hot air system, solar "tents"/dryers | |
| Lighting (poultry, livestock, fish processing) | Fluorescent lighting | 0.2 - 3 |
| Water pumping | PV, wind electric pump sets, biogas | 0.5 - 3 |
| Aeration -- aquaculture (shrimp and fish farms) | PV, wind electric air pumps | 0.2 - 1 |
| Light for night fishing [Indonesia, Philippines] | PV rechargeable fluorescent lanterns | 10 - 20 watts per lantern |
| Pest control (moths) | PV lanterns with kerosene insect traps, electrical traps [India] | 10 - 20 watts per lantern |
| Refrigeration for veterinary applications | PV fridges | 50 - 100 watts |
| Refrigeration (fruit and other crops, meats, fish, poultry, dairy products) | Wind, PV hybrids with fossil fuel generation: refrigeration units (compressor-driven) | 0.5 - 10+ |
| Decentralized refrigerated milk storage units | Wind-electric with double wall ice storage, or with fossil backup | |
| Ice making (espec. flake ice for fishing) | Wind-electric ice makers | 2 - 10 |
| Telecommunication (e.g., to permit farmers and fishermen to determine market prices and opportunities in major urban markets) | PV-powered cell phones, PV-powered satellite phone kiosks (e.g., Bangladesh -- Grameen Shakti operations), telecenters | 0.2 - 0.3 |
| Radio and television information | PV and PV/wind hybrid powered radios and TV sets to provide weather information to farmers and herdsman, and to food shop owners | |
| Grinding of corn, wheat, and millet, and milling of grain-hulling paddy | PV/wind/hybrid powered electric grinders and millers | 0.5 kWe - several kilowatts |
| Post-harvest loss reduction of grains | PV-powered ultrasound generator to jeep rodents away from grain storage | < 100 watts |
| Rice paddy drying | Rice hull-fired dryer | |
| Poultry processing | SHW, poultry litter for heat | |

Relevance of this Project to USAID Philippines:

(a) Link to USAID Philippines Overall Objectives: USAID support in the Philippines directly contributes to the stability and progress of the country, a key ally of the US. The USAID program advances US goals of trade expansion, financial stability and regional security in the Asia region.

The objectives of the USAID Philippines Mission are fourfold:

- 1) Accelerate the Economic Transformation of Mindanao
- 2) Promote an Investment Climate that is Less Constrained by Corruption and Poor Governance
- 3) Reduce the Fertility Rate and Improve Maternal and Child Health
- 4) Improve Environmental Management, including energy.

The MORE Project, to be conducted under Winrock's Leader with Associates Cooperative Agreement (No. LAG-A-00-99-0037-00), addresses two of these objectives, 1 and 4. For objective 1, the project will provide increased access to modern energy services, which are a key element of improved economic and social development, increased incomes, and enhanced quality of life for individuals, enterprises, and communities in the poorest region in the Philippines. While electricity availability, per se, does not necessarily result in economic development, it is an essential component of investment projects designed to increase local incomes through creation of economically productive activities. In particular, the project will contribute to rural economic development programs in Mindanao, particularly in the Special Zone of Peace and Development (SZOPAD), by providing off-grid rural electrification in support of livelihood (productive) projects.

For objective 4, the MORE Project will support USAID efforts to restructure the energy sector, increase competition in generating and distributing energy, and privatize government-owned energy assets. In barangays where microhydro projects are feasible, this can support watershed management and protection efforts through providing additional incentive to preserve the watershed. This project also contributes to USAID efforts to enhance the capacity of the private sector to electrify rural areas with renewable energy, to reduce greenhouse gas emission, and to encourage local communities in planning and carrying out activities to help ensure the sustainability of renewable energy investments. The project will focus on the three sub-regions of Western, Central and Southern Mindanao.

(b) USAID/Philippines Project Expectations. USAID/Philippines recognizes the critical need for the host barangays to be sufficiently prepared through capacity-building activities to take on the challenge of active participation in the planning, implementation, and patronage of RE projects. Social community preparation is necessary primarily to organize the recipient households in the barangay into a cohesive implementing/participating entity (i.e., barangay association) under this program. This will involve target barangays, local NGOs, and the local private sector, and will require strong LGU leadership. Likewise, the viability of implementing corresponding economic/livelihood activities (especially those mobilized by RE) is equally important to substantially contribute to the community's economic development. If the renewable energy systems are tied to successful livelihood projects and applications, this will increase the communities' incentive to effectively manage and maintain the energy systems, and increase the energy and financial resources at their disposal. Livelihood projects are one of the two other types of projects (in addition to electrification) that I-94 is designed to support, the

other being watershed management projects. These social preparation activities--including enterprise development--will ensure project sustainability and enhance economic growth in these areas through access to electricity.

The MORE Project will focus on areas where the USAID/Philippines Livelihood Enhancement and Peace (LEAP) program is operating. The LEAP Program is USAID/Philippines' principal activity aimed at supporting the 1996 Peace Agreement between the Government of the Philippines and the Moro National Liberation Front (MNLF). MORE will also work with or complement other ongoing or planned projects focused on rural infrastructure development, such as the DAR/SPOTS solar project activities in Mindanao, the World Bank-supported SZOPAD Social Fund, and the Department of Agriculture's Infrastructure for Rural Productivity Enhancement Sector (IRPES) Project financed by the ADB (including support from the Japan Fund for Poverty Reduction or JFPR).

Given the increased role and responsibilities of LGUs for rural infrastructure and economic development projects and their growing sources of funding and financing, LGUs are a key institutional player in the implementation of off-grid electrification programs. Strengthening LGUs' ability to support off-grid electrification project development—and demonstrating that such a role is feasible for LGUs—will contribute to the development of a multifaceted rural electrification program. In some cases, support to LGUs will also include support to the NGOs and local consultants that often assist LGUs in project preparation and implementation. LGUs' and other local counterparts' capabilities will be strengthened through short training courses and through hands-on, learning-by-doing work with Winrock Team members.

USAID/Philippines also desires to support the RE-based rural electrification activities of the IPPs, focusing as much as possible on social preparation to strengthen community involvement in project development and management. The MORE Project will contribute to this objective through extensive IPP collaboration. Particularly, we will be seeking IPP support in the financing of rural energy projects developed under this project.

Project Approach: The project preparation activities, including community preparation and livelihood project development, will be undertaken by a Winrock-led team that includes PEI, SIBAT, YAMOG, AED-P, NREL, MDFI and consultants. The partners and counterparts involved in the activities will include IPPs, other private sector companies, LGUs, the DOE, NGOs, and other organizations. During implementation, additional local NGOs and organizations will be identified in the project areas (particularly in Mindanao) that will be added to the implementation team and supported via small subagreements or grants.

This program will also support other private sector RE development efforts, such as WorldWater Corporation's work in the area of rural water projects; Community Power Corporation's (CPC) work to develop rural energy service ventures based on biomass, hybrid, and PV technologies; and activities of BP Solar and other renewable energy companies. For example, in preparing this proposal, Winrock has held discussions with WorldWater regarding its proposed \$52 million (US) project with the National Irrigation Authority (NIA) "Appropriate Irrigation Technologies for Enhanced Agricultural Productivity," for which WorldWater was recently awarded a grant from the U.S. Trade and Development Agency (TDA). This proposed project has a heavy focus on Mindanao, including the ARMM, and would include significant use of PV-powered water pumping from shallow tube wells. In addition to its renewable energy expertise, Winrock has a strong background in agriculture and extensive rural development experience in Mindanao, and would be able to provide effective support to the project through its community preparation

activities. Emphasis will be placed on supporting innovative private sector initiatives with strong potential for replication.

This project will be conducted in close cooperation with other programs other USAID projects on-going in the region, including the USAID Growth and Equity in Mindanao (GEM) Project and the Livelihood Enhancement and Peace (LEAP) Project. Further as the project will work primarily with communities in conflict-afflicted areas in Mindanao, we plan to work in collaboration with the MNLF state chairman, given their strong role in the communities.

Finally, a key element in our approach is to *advance gender equity* in all aspects of the social preparation work. Winrock Team members working on the RE project community preparation activities will receive orientation on gender and energy issues, in particular the use of participatory methods for needs assessment and how to effectively address gender concerns in their project preparation activities. Winrock International is a recognized leader in the area of gender and rural energy development, in terms of identifying the differing roles that women and men have in relation to energy resources use and management, and evaluating impacts that rural energy projects can have on men, women, and children.

Why Winrock? Winrock has been active in RE development in the Philippines for over six years, and is continuing to work there under its renewable energy cooperative agreement with USAID (Increased Use of Renewable Energy Resources). This RE work has involved project identification, preparation, development, and financing; assistance to private firms attempting to develop RE projects or ventures; support to establish several RE project development joint-venture companies; development of a Village Power Fund concept and project development process for providing technical assistance and financing for rural energy projects; support for efforts to leverage multilateral bank financing for RE financing; and technical assistance to the Government of the Philippines (GOP) in RE development. As a result of this broad experience, Winrock fully understands the challenges associated with the project and can apply our knowledge and experience in the development of sustainable solutions to meet both USAID and GOP objectives.

II. Task Activities

This section presents Winrock task activities for the proposed USAID/Philippines Associate Award. Per mission guidance, the goal of this project is to electrify at least 160 barangays in Western, Central and Southern Mindanao, and the ARMM, using renewable energy technologies.³ Additionally, the project seeks to enhance economic and social development of the recipient communities. To accomplish these goals, the following tasks will be conducted: stakeholder dialogue roundtables; barangay electrification plan development; community preparation; renewable energy project design, development and installation; community training; operations and maintenance (O&M) fund design; and information, education and communication program development.

Each of the tasks is designed to support USAID/Philippines objectives, and to complement the Winrock Clean Energy Group's current program under its LWA with USAID/Global. Note that the proposed tasks are described in fairly general terms for two reasons. First, because the proposed

³ We anticipate that in a limited number of cases our investigation may reveal that grid extension or a diesel-powered system is the most appropriate option. In that case, the MORE project will prepare a brief report with recommendations on electrification investment and productive use investments, and provide that to the relevant electric cooperative, IPPs, the relevant LGU.

implementation timeframe is three years, it will be important to allow flexibility so that specific activities can be defined and refined as circumstances change. Second, Task 2 below proposes development of a Barangay Electrification Plan that will layout the timing and scope for barangay electrification in more detail, benefiting from the input of key stakeholders such as USAID, the national government, LGUs, NGOs, IPPs, the communities and other key players. The MORE task activities are described below and summarized in **Exhibit 3**.

Task 1. Stakeholder Dialogues.

At the outset of the project, and routinely throughout the course of the project, it will be important for Winrock to host dialogue sessions with key stakeholder organizations that will be involved in project implementation. Initially, these sessions will inform key participants on project goals, objectives, approach, schedule, budget and expected outputs. In follow on meetings the emphasis will be on project reporting, evaluation and lessons learned. These dialogue sessions will serve as a means of formulating strategies, functions and responsibilities and will assist in building partnerships among the Team members and associated partner organizations through joint action planning. The sessions will be run as a series of roundtable discussions and will be managed by an experienced meeting facilitator/strategic planner.

As part of these meetings, we may invite other organizations that are involved in the provision of rural energy services in the Philippines, to share experiences, lessons learned and best practices. These entities could include: DOE, NEA, USAID (including LEAP and Gem teams), AusAID/MSIP, other bilateral donors, the World Bank, LGUs, ANECs, private companies, NGOs etc. Also, a key participant in the stakeholder dialogues will be the ARMM government. A key component of this task will be to identify ways to coordinate and cooperate with the ARMM, including the development of a Memorandum of Understanding (MOU) which will specify roles, responsibilities and activities to be performed between the ARMM and the Project Team for activities in the ARMM territory.

The first stakeholder dialogue will be held in either Manila or Cotabato City, within the first three months of project initiation. Subsequent stakeholder dialogues will be held in ARMM and the three major operating regions of Southern, Western and Central Mindanao on an annual basis. As warranted, a larger session bringing all players together from across the three regions may be considered. Sessions will include participants from the IPPs, DOE, Local Government Units, rural-based organizations (RBOs), World Bank, ADB, USAID, and other organizations. Output of the round table discussions will be printed, packaged into an official document, and distributed to all the participants.

Participating Team Members: WI, PEI, AED-P, SIBAT, YAMOG.

Deliverables: MORE Kick-off Meeting; Annual Meetings in ARMM, Southern, Central and Western Mindanao; Meeting Reports

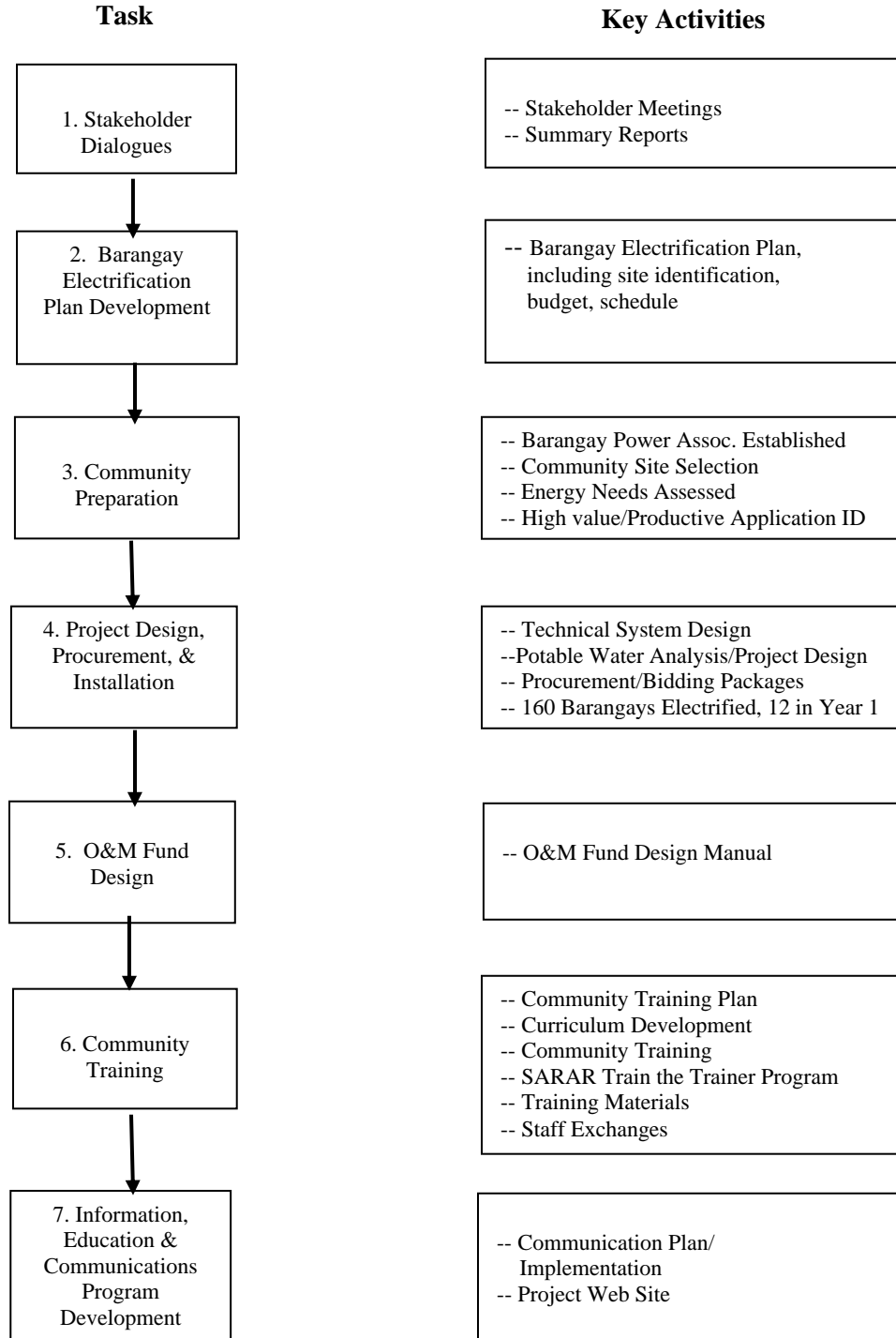
Task 2. Barangay Electrification Plan (BEP) Development

USAID has identified 160 potential barangays that are to be served by the MORE Project in the ARMM, Western, Southern and Central regions of Mindanao. This barangay listing has been developed in close collaboration with the LEAP project.

To determine the timing and scope of barangay electrification, we propose a two step process.

- Step 1, to be performed in this task, will involve development of a Barangay Electrification Plan that sets forth proposed siting, applications, technologies, budget and schedule for community electrification. This plan will draw upon available data, and will be developed from a set of evaluation criteria approved by USAID.
- In Step 2 (Task 3 below), we will meet with the target barangays identified in the BEP to verify data collected, and to assess community interest in and support for an electrification project. Depending on the results of the community meetings in Task 3, the BEP may need to be modified as some targeted barangays may not be appropriate candidates for the project, while new barangay sites may emerge as viable candidates

Exhibit 3: Mindanao Off-Grid Rural Electrification Project Task Summary



To develop the BEP, the following information will be collected, collated and evaluated:

- Relevant demographic data on each sub-region, including density of population in the communities; poverty levels; literacy rates, child mortality rates; access to potable water and medical services; number and location of schools, health clinics, community centers, municipal government buildings or churches; land ownership patterns; etc.
- Socio-cultural information, including Muslim culture and traditions. Understanding and honoring these traditions will be paramount to successful project implementation.
- Existing rural energy infrastructure, including number of rural communities that do not have access to electricity services, available energy sources (particularly solar, microhydro, biomass, wind, etc), energy delivery structure (e.g., IPPs, cooperatives, government agencies), energy prices, load estimates, installed system costs, ability/willingness to pay, environmental and health-related impacts of current rural energy use patterns, etc.
- Existing policies regarding rural energy.
- Ongoing and planned rural energy programs, as well as those being considered for possible implementation. This will involve consulting NEA, local IPPs and energy service providers, NGOs, and multilateral organizations involved in the region (World Bank, ADB, etc).
- Planned, ongoing, and proposed programs in ICT, health, agriculture, education, water, small and micro-enterprise (SME) and other development-related sectors, and their potential energy linkages and needs. This would include collaboration with USAID's GEM and LEAP programs and TDA's program with WorldWater, government programs and donor initiatives.
- Political situation.
- Local manpower/skills assessment.
- USAID project activities.
- Characterization of key local institutions (NGOs, IPPS, cooperatives) etc. operating in these subregions.

To obtain the above data we will utilize secondary data including reports, publications, databases and websites from sources such as Philippine Government agencies (e.g, DOE and NEA), NREL the World Bank, ADB, and others. We will also draw heavily from the experiences of those that have been operating renewable energy projects in the region, such as the AusAID-funded Municipal Solar Infrastructure Project (MSIP) project developed by BP Solar and implemented by DILG and LGUs in Mindanao. These recent ongoing initiatives can yield extensive best practices and lessons learned experiences on working with local communities in designing and implementing renewable energy projects for productive, social and consumptive applications. Where data gaps exist we will collect primary data via meetings, interviews and site surveys. The MORE project would also utilize Winrock International's expertise in natural resource

inventory and analysis, specifically in the development and use of Spatial Information Packages (SIP) and Multispectral 3D Aerial Digital Imagery (M3DADI), in order to rapidly map location of buildings within the 160 barangays, as well as to rapidly identify potential microhydro sites and gather information useful for screening of hydro projects.⁴

To assist in technology selection and system sizing, we currently plan to utilize NREL's HOMER and VIPOR models. VIPOR is useful in remote power and rural electrification program planning and project analysis. Although the program traditionally has focused on off-grid distributed power systems, it is now enhanced to handle grid-connected systems. HOMER identifies the least-cost system for particular applications. It can look at combinations of photovoltaic, wind, batteries, micro-hydro, and any type of engine-generator (reciprocating engines, micro-turbines, or fuel cells) powered by any fuel, including biomass.⁵ More detailed information on the HOMER and VIPOR models are provided in Attachment 2.

Data collected in this task will be analyzed to determine target sites, their scheduling and approach for individual barangay electrification according to a set of criteria pre-determined with USAID. These criteria could include USAID project experience, established USAID/WI Team relationships with the communities, prior renewable energy systems experience, supportive LGU, interested IPP partner, growing energy demand, political stability/priority, local skill base, productive base of activities, etc. It is anticipated that in the barangay selection process, priority will be given to areas where the LEAP program is operating. The proposed activity will also work with or complement other ongoing or planned projects focused on rural infrastructure development, such as the DAR/SPOTS solar project activities to be implemented in Mindanao, the World Bank-supported SZOPAD Social Fund, and the Department of Agriculture's Infrastructure for Rural Productivity Enhancement Sector (IRPES) Project.

We plan to give priority to communities that are close to existing renewable energy installations and thus are familiar with the technologies, their operation, and their benefits. For example, the MSIP is operating renewable energy installations in the following barangays of Tawi-tawi – Tongsinah, Lato-lato, Pababag, Malasa, Lakit-lakit, Pakias, and Luuk Pandan. Given that these barangays are already familiar with the systems they would make likely candidates for near term installations. Based on the Team's current knowledge and experience in Mindanao, we would expect that priority will be given to the following barangays: ARMM Area, focus on Tawi-Tawi; Western Mindanao, focus on Zamboanga-Basilan, and Central Mindanao, focus on Sultan Kudarat. However, this will be reviewed and evaluated in the BEP development process.

This information above will be compiled in the BEP to provide the following information: target sites, proposed technologies/systems to be provided, proposed technology applications, estimated systems costs, proposed delivery mechanism (IPP, cooperative, NGO, private sector, private enterprise, etc), team member assignments/responsibilities, proposed schedule and budget, etc. As the project progresses however, and the team works more closely with the communities in the tasks below, the activities in the BEP will be modified.

⁴ The M3DADI is based on aerial photography using dual cameras to provide detailed three dimensional high-resolution images. In some of the proposed project areas, aerial overflights will be inadvisable or require use of military aircraft. It appears that in the case of many of the barangays this will be a useful tool. This proposed work is discussed in more detail in Attachment 3.

⁵ We are aware that as part of the preparation of the World Bank Rural Power Sector loan, a consultant has prepared a new model as a simplified decision tool for selecting between grid extension and off-grid electrification options, and is introducing that in Manila this month (January 2002). In the event the DOE and other power sector entities choose to use the new model, we will consider adopting this model. Our initial information is that the two models are complimentary.

As part of the implementation plan at least 12 rapid action barangays will be identified that can be electrified in the first year; these barangays will serve as a showcase for future sites.

Key Issue to Consider: In the SZOPAD region, and in particular the areas targeted by the LEAP project,⁶ attention to personal security of program staff will be essential. Winrock will coordinate with USAID and the security personnel at the US Embassy on decisions regarding areas of operation. It should be noted, however, that Winrock has extensive experience working in these areas, and our experience working with and through local NGOs and other intermediary groups will make it possible to pursue activities except in the case of extreme disruptions to peace and order. In addition, we will have a stronger training effort here to build capabilities of staff of LGUs and local organizations able to work in areas that may be insecure for outsiders.

Participating Team Members: Winrock, PEI, NREL, SIBAT, YAMOG, and AED-P and selected consultants.

Deliverables: Barangay Electrification Plan, including identification of at least 12 rapid action barangays for very near-term implementation.

Task 3. Community Preparation Activities

While the BEP will identify the number and potential location of the barangays, the final selection will depend on conduct of community assessments to verify the data obtained above and to confirm community needs, interests and capacity. One of the key components of the community assessments is the identification of high value applications of electricity that will be made available. These will include productive, rural livelihood applications; high-value, social applications; and household end uses. Factors to consider in conducting the needs assessment include:

- *Household applications.* In the case of household applications, the needs assessment process is fairly straightforward, as the applications are fairly generic. In cases where photovoltaic (PV) technology is the appropriate choice, the women and men in each community need to be informed of the types of household loads that cannot be supported with a typical PV home system (e.g., irons, large fans, large color televisions).
- *Livelihood and social applications.* The identification and preparation of productive-use “livelihood” projects or applications, and high-value social applications are more complicated as these may employ larger systems with multiple applications and customers. These systems will vary in scale and unit cost (cost per kilowatt and kilowatt-hour), and will include technology options such as microhydro, PV, hybrid and wind systems. Community members must be informed regarding the types of applications that are and are not feasible with different energy systems, so that they can make an informed choice regarding participation. In general, the productive use applications will primarily involve agricultural or fisheries production (e.g., water pumping for irrigation, aquaculture aeration), increasing rural value-added through post-harvest processing (e.g., milling, drying, refrigeration), and small/micro enterprise applications. Social or

⁶ Proposed areas of focus under the follow-on LEAP project include: MLNF State; ARRM Region (Sulu, Maguindanao, Lanao Sur, Tawi Tawi.); Central Mindanao (Lanao Norte, North Cotabato, Sultan Kudarat); Western Mindanao (Zamboanga Sur, Basilan); and Southern Mindanao (Sarangani; Davao Sur). As stated above, Winrock proposes retaining flexibility to also work with other programs active in the SZOPAD region, and the renewable energy activities would not be limited to these areas targeted by LEAP.

community needs will generally involve infrastructure such as electrification of schools and health clinics, water pumping for potable water supply, and communications, including information and communications technologies (ICT) to enable rural distance education and strengthening of linkages to markets.

Community Organization. Winrock proposes to organize the recipient households in the barangay into a cohesive implementing/participating entity, such as a barangay power association or other entity. If a suitable organization is already operating in the barangay, we will work with and through this entity to mobilize the community. This entity will have a critical role in facilitating and coordinating rural electrification activities in the barangay, and will be the key link between the Winrock Project Team and the local community. This entity will also take the lead in establishing (and potentially operating) the Community Operations and Maintenance Fund discussed in Task 5 below.

Social Preparation- the SARAR Approach. USAID/Philippines recognizes that the communities to be electrified must be sufficiently prepared through capacity building activities to participate actively in the planning, implementation, and patronage of RE projects. Although the IPPs and the private sector developers and manufacturers of RE equipment understand the need for social preparation of the host communities, they lack the capacity to undertake such activities. Thus under this Task we will work with the local communities in identifying and preparing rural energy projects that can support livelihood projects such as post-harvest processing and other commercialization activities, as well as key social applications such as potable water supply and education facilities.

In order to maximize local involvement in decision making and planning for rural energy projects that will affect the community, and to foster rural energy projects that promote sustainable rural transformation, the MORE Team will use a participatory approach to identify and give voice to local communities' self-defined needs, and to solicit input from the communities themselves about ideas for electrification projects. In particular, the Winrock Team proposes to use a modified SARAR approach for community, LGU, and NGO participatory activities. SARAR stands for five attributes or abilities that people need to achieve full commitment and participation in development: *self-esteem, associative strengths, resourcefulness, action planning, and responsibility for follow-through.* The modified SARAR approach is a participatory approach to training and community organization that builds on local knowledge and strengthens local ability to assess, plan, create, organize, and evaluate. The SARAR's purpose is to (a) provide a multisectoral, multi-level approach to team building through training; (b) encourage participants to learn from local experience; and (c) empower people at the community and agency levels to initiate action. The SARAR approach seeks to optimize people's ability to assess, prioritize, self-organize, take initiative, and shoulder management responsibilities. The MORE project will deploy 10 Training/Community Development Facilitators on a full-time basis to work with counterpart barangays.

Winrock has used this approach in the Philippines to assist LGUs and upland and coastal communities in several towns in Mindanao and Luzon, including Basilan, Zamboanga, Surigao, Agusan, Cotabato, Sultan Kudarat, Mis. Oriental, Bukidnon, and other provinces in Luzon in preparing and implementing livelihood and community-based resource management programs.

Specifically, Winrock and its associates will train and work with the communities and LGUs in the identification, planning, implementation, and management of RE and sustainable livelihood activities, including the following:

- **Team building**
- **Community organization/participatory processes, visioning**
- Participatory resource assessment and planning
- Socio-institutional profiling, including social support conditions, leadership patterns, local community organizations, awareness, perceptions, and willingness to participate
- Community needs assessment for various energy services
- Community ability/willingness to pay for energy services (particularly systems operations and maintenance)
- Problem analysis/preparation of project components
- Pre-investment study analysis for each livelihood option (and possibly RE projects).
- Preparation of project cost and financing
- Preparation of detailed implementation plan, including institutional arrangements
- Project management and organization
- Monitoring and evaluation plan

Training the Trainers in the SARAR Methodology. In order to facilitate the work in Mindanao, Winrock will undertake the training of three local training teams, one each in Central Mindanao, Western Mindanao, and Northern Mindanao. These local training teams will be the ones to work and train LGU staff, local NGOs, and community leaders on social preparation work and in the identification and preparation of community projects. The training will also include participatory monitoring. This approach will allow us to work in many communities in rural Mindanao within the three-year period of the project. Moreover, it will allow the participation of higher-risk communities that otherwise might not be possible. Throughout the SARAR training, we will take steps to engage both men and women in the process.

Once the community needs have been identified, we will conduct technical, economic, financial and social analyses of potential renewable energy applications, and recommend one or more renewable energy options to meet the communities' energy needs (See Task 4 below). As mentioned above NREL's HOMER and VIPOR models will be used in this analysis as appropriate. In-country Winrock consultants have been trained in the use of these models.

Participating Team Members: Winrock, PEI, NREL, YAMOG, SIBAT, and MDFI staff and Winrock consultants. In some cases, Affiliated Non-Conventional Energy Centers (ANECs) will be asked to support social preparation and to conduct community energy/economic surveys.⁷

Deliverables: Revised Barangay Electrification Plan; Establishment of a Barangay Power Association (or equivalent entity) in Selected Barangays; Report on Community Needs and Proposed Renewable Energy Applications.

Task 4. Project Design, Procurement and Installation

In the prior task, The Winrock Team, in conjunction with the local communities, finalized the Barangay Electrification Plan. This included coming to closure on the timing and selection for

⁷ The MORE team will explore with a number of Mindanao-based ANECs and other university-affiliate groups their possible participation in the project, and we have set aside funding in the budget to support these groups. ANECs or other universities that will be contacted include Central Mindanao University, Mindanao State University (Lanao del Sur and Tawi-Tawi locations), Sultan Kudarat State Polytechnical College, and Western Mindanao State University.

barangay electrification, recommended high value productive and social applications required by the community, and the potential technology solutions to meet their needs.

In this task, the Team will ensure the cost effective design and implementation of the identified projects. In some cases the Winrock Team will be responsible for the full project design and procurement of the equipment, in other cases these activities will be conducted by an IPP or other interested party. Examples of the types of arrangements that may be used to ensure effective project design and implementation are provided below.

- In instances where there is no identified party to conduct the system design, procurement and installation work, the Winrock Team will take lead responsibility for these activities. Specifically, in the case where Winrock does the procurement on behalf of the communities, the equipment will be provided in kind (not in cash), similar in modality to USAID LEAP Technical Assistance Grants (TAGs). Where the Winrock Team is responsible for installation, we will draw upon the services (to the extent possible) of local individuals and organizations such as the ANECs, universities, contractors or individuals. Prior to utilizing these entities for installation, we will ensure that they are fully briefed on the work required and technical assistance and training instruction will be provided as appropriate. Where possible we will use local entities in the design, implementation and operation of the systems in order to strengthen local capacity and enhance project sustainability.
- In cases where an IPP or other entity is willing to prepare or has already prepared the technical design for an off grid electrification project, the Winrock Team will focus on supporting the social preparation activities described above and on assisting the IPP or other entity in social intermediation with the communities. In cases where an IPP is willing to fund off grid electrification fully or partially, but is not willing to do the technical designs or project preparation, the MORE project Team can provide this expertise. Several electric cooperatives, for example, have already prepared project designs and cost estimates for IPP-funded electrification based on grid extension. This is generally not the case for off-grid electrification projects, however, and Winrock believes that assistance in project preparation of the technical design will be required.
- In cases where there is a private company willing to conduct a project, the Winrock Team can provide technical and financial support to ensure successful project delivery. Examples could be support for WorldWater Corporation's work in the area of rural water projects; Community Power Corporation's (CPC) work to develop rural energy service ventures based on biomass, hybrid, and PV technologies; and activities of BP Solar and other renewable energy companies. Depending on the services to be provided, support to private sector companies could be either through competitive bid solicitations (for equipment procurement/installation) or through direct grants (technical assistance/training).

Given the range of services that could be required of the Winrock Team, we will offer the full spectrum of support in the design, development and implementation of renewable energy projects for this project. The exact services to be provided to a given barangay will depend on the needs of that community; the willingness/interests of IPPs, cooperatives, private firms, NGOs, etc to meet their needs; and the corresponding levels of technical expertise of the service delivery groups.

Among the range of services to be provided by the Winrock Team in the technical design, procurement and operation of barangay electrification are the following:

- Preparation of the detailed technical design of the renewable energy livelihood and social projects, including economic analysis, engineering analysis, technology selection, system specifications, costs, etc. In performing these project design activities, we plan to make use of NREL's HOMER and VIPOR models, as discussed above and in **Attachment 2**.⁸
- Development of procurement packages, including bid specifications, bidding documents, bid evaluation procedures, contract conditions, administrative arrangements, and assistance to the recipient community in negotiating agreements and contracts related to project development.
- Definition of institutional arrangements for procurement, installation and operation of the projects, including all legal, financial and permitting requirements. This will include: identification of suppliers or manufacturers that can meet the design specifications; laying out the specific roles and responsibilities of all the key stakeholders in the project, including suppliers/manufacturers, LGUs, NGOs, IPPs, ANECs, etc.; ensuring a delivery procedure based on the standards with special attention given to seasonal activities (rain), infrastructure, vehicles, and safety and security aspects; and instructions for arranging installation, which confirms that all installation must be as per manufacturers' instructions.
- Preparation of a financing plan, including cost recovery arrangements. The plan will include (1) cost estimates, such as capital expenditures, spare parts, consumables, direct installation costs (material), direct installations costs (labor), administration costs, financing costs etc.; and (2) income sources, including USAID, IPPs, government, LGUs, etc.

Also, under this Task, in recognition of the need for potable water in many of the barangays, particularly those in Tawi Tawi, we plan to conduct an assessment of potable water supply issues. In particular, we plan to define the problem, identify solutions and propose preliminary system package designs.

During implementation of this program, one or more communities being assisted may unexpectedly be offered electrification through grid extension, based on sudden availability of donor funds or other factors. In such cases, rather than withdraw immediately from work in such communities, the project will gradually withdraw to ensure that the work to date serves to strengthen the communities and increase the development benefits the community can derive from electrification.

Participating Team Members: Principal participating organizations are Winrock, PEI, YAMOG, SIBAT, NMSU/SWTDI, AED, NREL and Winrock consultants.⁹ The Winrock Team will also work closely with IPP staff and representatives of electric distribution utilities (EC or investor-owned) to implement this activity. The Winrock Team will establish and maintain a close relationship with DOE Non-Conventional Energy Division (NCED), ERC, SPUG, and other energy sector agencies involved in implementing or overseeing aspects of rural

⁸ As discussed above we will also evaluate the model prepared by the World Bank consultant and assess DOE and other agency acceptance of this model.

⁹ YAMOG and SIBAT will focus more heavily on microhydro project preparation and implementation, with SIBAT focusing on Sultan Kudarat and Lanao del Norte (based on prior discussions with local counterparts). Winrock is discussing with the University of the Philippines Solar Lab its possible participation in these activities, focusing on system specification and bid review, working in conjunction with NMSU/SWTDI.

electrification. The team will also establish a procedure for identifying and raising potential problems and solutions related to policies and regulatory procedures affecting rural energy service delivery. This activity is expected to be ongoing for the life of the project, in part because the ongoing donor- and government-supported rural electrification projects (and any new such projects) will continue to affect the environment for prospective private investors.

Deliverables: System Designs, Potable Water Supply Analysis and Preliminary System Design, Procurement Packages, Operational Systems in 160 barangays (at least 12 installed in Year 1 of the project).

Task 5. Operations and Maintenance Fund Design.

In this project, the capital equipment for energy supply for community services and enterprise activities will be provided on a subsidized basis, although community counterpart contributions will be sought to maximize sense of ownership. The recurring operation and maintenance costs for the systems, however, are expected to be covered by the recipient communities. This requires that a system be put in place to collect funds on an on-going basis to be used to cover recurring expenses. These funds will be used to operate, maintain, repair, and expand (if needed) the energy systems.

This task will involve working with the local communities to develop a collection mechanism that is appropriate to their needs and conditions. For this effort the Winrock Team will work in close cooperation with the Barangay power association established in Task 3, which will serve as the central coordination point for this activity (and possibly the O&M Fund Manager). In some cases an energy system may be managed by a producers group such as a cooperative or private firm. In this task, a variety of options will be considered in establishing a collection mechanism. These include:

- Collecting a small fee from community recipients on a monthly basis for their renewable energy electricity services and putting these monies into an Barangay Operations and Maintenance Fund;
- Collecting a small fee from recipients of productive and livelihood applications (cash generating) and putting these funds into a pool that covers O&M costs for these systems, while cross subsidizing community or socially based projects that do not have a cash benefit.
- Providing in-kind equipment and labor support to meet O&M requirements.
- Arranging community fund raisers to secure funding for O&M needs (sporting events, bingo games, dances, etc).
- Evaluating innovative approaches such as pre-payment technologies/products for community based revenue collection.

In this regard, Winrock team members will examine carefully the experience of the AusAID-financed BP Solar-implemented Municipal Solar Infrastructure Project (MSIP) that has provided PV-based community service systems (water supply, power for schools, health clinics, and barangay halls, and public lighting) and the social preparation considered necessary for the sustainability in over 450 barangays in Mindanao. The LGUs assumed responsibility for assuring the monthly payments necessary to cover the O&M requirements for these systems. Where such arrangements are working well, they may be emulated in the USAID project. Where they have not worked well, adaptive modifications will be necessary for the USAID project.

Participating Organizations: Winrock, PEI, AED, SIBAT

Deliverables: O&M Fund Design Handbook; O&M Fund established at each Barangay

Task 6. Community Training

To ensure the successful operation of renewable energy projects in 160 communities of rural Mindanao, a number of training activities will need to be conducted. Under this task a comprehensive training plan for the 3 year duration of the project will be prepared to identify these training needs in more detail. The plan will result from an evaluation of local community

capabilities and needs assessment for training and technical assistance support. Although the primary audience for training activities will be the local communities (households, businesses, NGOs, cooperatives, etc), other key stakeholder groups will be included as well. Also, as mentioned in the section on Task 3, above, we will deploy a team of 10 Training/Community Development Facilitators to work with counterpart barangays on a long-term basis.

For each training event proposed in the plan the following information will be provided:

- Course name
- Course topic and short description
- Tentative course agenda
- Timing and schedule of the training program,
- Intended audience,
- Criteria for selecting participants
- Proposed number of participants,
- Training location and venue,
- Proposed trainers,
- Training curriculum and agenda,
- Implementation mode,
- Associated training materials, and
- Proposed budget.

In structuring the Training Plan we will consider the following:

Participants. Under this program there are a number of groups that will need training at varying levels. These will include the recipient barangays, the LGUs, the IPPs, private sector firms, local cooperatives, etc.

In the training task, particular attention will be accorded to the LGUs, given the increased role and responsibilities they have in the implementation of rural infrastructure and economic development projects and their growing sources of funding and financing, Strengthening LGUs' ability to support off-grid electrification project development—and demonstrating that such a role is feasible for LGUs—will contribute to the creation of a multifaceted rural electrification program. In some cases, support to LGUs will also include support to the NGOs and local consultants that often assist them in project preparation and implementation.

In designing training programs for the communities, the core course curriculum will include: a technical review of renewable energy system operations and maintenance, and a course on administration and financial management, to include basic accounting and bookkeeping.

Media. A variety of training medium will be considered. These could include traditional classroom training, field based training whereby we bring the participants to a project site for hands on training and experience, computer based training, etc.

Trainers. The Winrock Team proposed for this project offers a comprehensive range of skills and expertise in the areas of renewable energy technologies, rural development, survey design, community participation, end use applications (water, agriculture, health, fisheries), etc. For the most part the Team will be able to meet the training needs identified, however, if additional expertise is required in a particular area, we will bring in specialized trainers to meet these needs.

Train the Trainers. In Task 3, we identified the need to provide a SARAR Train-the-Trainers course to be able to reach the breadth of barangays addressed in this project. Similarly, in other courses to be provided, we anticipate the need to conduct train-the-trainers programs to be able to reach a broader audience, as well as to strengthen the capabilities of local organizations to provide on going training, technical assistance and support in areas that will require attention once the USAID program is completed in 2004. This could include courses in operations and maintenance, technology selection and application, financing and cost recovery etc. The train the trainers program will be an important component in longer term sustainability, ensuring that a knowledgeable, educated base of local NGOs, enterprises, cooperatives and other entities exist to continue to pursue the implementation, operation and replication of the work begun in the USAID project.

Training Materials. As part of this project the Winrock Team plans to prepare and distribute a number of training materials. These will include training handbooks and guidebooks, training toolkits, user/operator manuals; best practices guides, training videos, newsletters, etc. Materials will be made available in a number of formats including hard copy, web based and CD-Roms. Materials will be provided in English and/or native languages, depending upon the audience.

Training Course Curriculum. Although the Training Plan will determine the particular courses to be offered, **Exhibit 4** provides a listing of potential training courses that could be offered under this program.

Study Tours. In some cases study tours may be arranged to sites/organizations in the Philippines or elsewhere to educate key communities or other stakeholders on various aspects of project design and implementation.

Staff Exchange Programs. As part of the training program we may conduct staff partnership and/or exchange programs whereby we place staff from local NGOs in Mindanao on site at one of the Team member facilities (e.g., Winrock, PEI, SIBAT, YAMOG), and/or place staff from one of our Team members on-site with a local NGO, for more in-depth, personalized and hands on training in a particular field. This could involve shorter term training for 1-2 weeks, or more extended programs of up to 3 month. In some cases staff exchange programs could involve longer term assignments of up to one year.

Training Course Evaluation. At the end of each training course, participants will be asked to complete a brief survey form to assess the value of the content and presentation of the training and materials provided.

A Training Coordinator (new hire) will be hired to develop the Training Plan, design resulting training programs and course curriculum, oversee the implementation of the training activities, and to review the results of the training course evaluations.

Participating Team Members: Winrock, PEI, SIBAT, YAMOG, NREL, NMSU/SWDTI

Deliverables: Training Plan, Training Course Evaluations, Training Materials

Exhibit 4 Potential Course Offerings

Technical

- Renewable Energy Technology Overview and Options
- Renewable Energy for Rural Applications: Household, Productive and Social
- Renewable Energy Technical System Installation, Operation, Maintenance, Troubleshooting, and Repair*
- Renewable Energy System Design
- Developing and Implementing Renewable Energy Productive Use Projects
- Gender Considerations in Renewable Energy Project Design and Implementation
- Community Mobilization for Effective Renewable Energy Project Implementation
- Rural Electrification Success Models
- How to Develop Rural Energy Master Plans

Administrative and Financial

- Financial Management of Renewable Energy Systems (including Basic Accounting and Bookkeeping)*
- Management and Operation of Community O&M Funds
- Economic and Financial Evaluation of Renewable Energy Projects: Least Cost Planning
- Renewable Energy Entrepreneurship: Business Management, Planning and Marketing

* Core courses to be provided to all communities.

Task 7. Information, Education and Communications Program Development and Implementation

USAID/Philippines has emphasized the importance of an effective strategic communications plan that will serve as an information-sharing mechanism to promote the advantages of community RE electrification projects based on strong community participation. Toward this end, the Winrock Team will implement an information, education, and communications plan that will allow fast and accurate sharing of information among stakeholders and potential participants. In addition to preparing a brochure and appropriate presentation materials, Winrock will utilize electronic (web-based) media for transmitting information on available services under the USAID-supported program, project development progress, newsletters, best practices, and recommendations for communities and LGUs wishing to emulate the successful RE projects. This will include preparation and electronic dissemination of information on prepared project packages ready for implementation and available for funding by IPPs and other entities. (This same information will be made available on CD-ROM). The web page will be made available for linking with the DOE website. In addition, Winrock will organize educational field trips of local officials and community leaders to communities that used participatory approaches in planning and implementing similar projects. It will be best to involve at least five participants from each target municipality, from a variety of LGU and non-government organizations. Winrock will also work with the Leagues of Municipalities, Municipal Finance Guarantee Corporation, and other agencies supporting municipalities, in these outreach efforts.

To collect and transmit this information, we will make use of a MORE web based Management Information System that will serve as a central repository for all project information. This system is described in more detail in Section F of this proposal.

Participating Organizations: Winrock, PEI. Also participating in this task will be LGUs, NGOs, and municipal organizations.

Deliverable: Communications Plan and Implementation

D. Monitoring and Evaluation Plan

Winrock will establish a monitoring and evaluation system to assess progress on each of the Task activities during different stages of implementation. In particular, for each barangay site, the following information will be tracked:

- Community Consultation and Needs Assessment Status
- Community Mobilization (e.g., Barangay Power Association Established)
- Project Design, Procurement and Installation Status
- Community Training Status
- Community Electrification Status
- Operations and Maintenance Fund in Place.

A standardized reporting format will be prepared for collection of this data and the results will be provided in the Benchmark Table format provided by USAID (**Exhibit 5**). At this time, Winrock is not in a position to prioritize the barangays for electrification. This will follow from the development of a Barangay Electrification Plan (Task 2) and Community Preparation activities

(Task 3). As stipulated by USAID, the key result anticipated for this project is 160 barangays to be electrified in ARMM and in the Central, Southern and Western regions of Mindanao.

Also as part of the evaluation, we believe it is important to measure the economic and social benefits to the communities of the renewable energy projects deployed. In this regard we plan to work with the LEAP program to determine an appropriate mechanism for tracking and reporting the benefits of the renewable energy projects resulting from this program. In particular, we will coordinate with USAID and LEAP to determine whether it makes more sense to incorporate MORE development impact benefits in LEAP results reports (as this already includes livelihood indicators), or whether we should track and report these benefits under the MORE project reporting. In either case, we propose collecting the following types of information from the productive and social projects Winrock will be supporting:

- **Beneficiaries:** Number of direct and indirect beneficiaries; male/female breakdown where possible.¹⁰
- **Income:** Number of people reporting an increase of net individual income as a result of this project; also, the amount of income increase identified (\$)
- **Productivity:** Number of people reporting an increase in quantity of good produced/unit of land; value of the productivity increase.
- **Employment:** Number of new jobs resulting from this project.
- **Capacity building:** Number of people trained as a result of this project.
- **Institutions Strengthened:** Number of institutions strengthened as a result of this project. (what measures of strengthening will be monitored, how will they be monitored, and how this information be used?)

Also as part of the Monitoring and Evaluation Plan, we will provide “pipeline” numbers as requested by USAID/Philippines (i.e., obligated funds expended and obligated funds remaining) and quarterly summary reports of the financial status of the project. Financial Status Reports, SF-269, will be submitted on a monthly basis.

Exhibit 5 Benchmarks for Barangay Electrification

| Region IX – Tongkil, Basilan | Baran- gays | Benchmarks | | | | | |
|------------------------------------|----------------|--|------------------------------------|---|-----------------------|--------------------------|-----------------------|
| | | Community Consultatio n and Needs Assessment | Communi- ty Mobilizatio n | Project Design, Procurement, Installation | Community Training | Community Electrified | O&M Fund Developed |
| | TBD | TBD | TBD | TBD | TBD | TBD | TBD |
| | | | | | | | |

¹⁰ Direct beneficiaries are those individuals who were directly involved in the project (e.g., a farmer). Indirect beneficiaries are typically at the second layer of benefit; they are not directly involved with the project, but may be directly benefiting from a person who is directly involved with the project. For example, the families of farmers who increase their income as a result of the project would be considered indirect beneficiaries.

Note: A detailed M&E plan will be prepared upon award of the Associate Agreement. One of the first activities of the Winrock team will be to prioritize the schedule for barangay electrification and a table such as this will be completed and provided to USAID-Manila. At this time of Application preparation Winrock is not in a position to set forth timetables for specific barangay electrification. This plan will be provided no later than June 2002.

E. Sustainability Plan

Sustainability is a key component of the Philippines Renewable Energy Development Project, and has been designed into a number of the proposed activities. It is a priority of the Winrock Team that elements be incorporated into project design and implementation over the 3-year project duration, to ensure that longer term sustainability and replication occur once the project ends in September 2004.

Sustainability elements include:

- Focus on providing energy services for productive applications that will continue to benefit recipient entrepreneurs and communities in terms of productivity improvements and increased income generation flows for the duration of the energy system operating life. Applications will focus on farming, fisheries, and small and micro enterprises.
- Focus on high value social applications such as electrification of schools, clinics, water supply and communications that will continue to benefit recipient communities long after the cessation of the project.
- Training of local businesses, NGOs and cooperatives to strengthen their capabilities in project design, development and implementation so they can replicate these activities beyond the target 160 barangays. Capacity building will include managerial tools for developing and operating a renewable energy project/business and technical skills for local manufacturing, installation, operation and maintenance of systems.
- Establishment of local, community supported Operations and Maintenance Funds in each barangay to ensure the availability of resources for battery replacement, on going system operation and trouble shooting.
- Leveraging of local and national government resources, private sector/IPP resources, donor programs and other activities in collaboration with NGOs.
- Building renewable energy linkages across the 3 sub-regions in Mindanao (Western, Central and Southern)
- Preparation of training materials that can be used beyond the project life, including a community preparation roll out guidebook applicable to a variety of organizations (NGOs, universities, LGUs, IPPs, etc) in future renewable energy electrification efforts in Mindanao and other regions.
- Establishment of barangay electrification associations that can trouble shoot existing projects and design, develop and promote future projects beyond the target 160 communities.
- Emphasis on gender equity improves the economic and social benefits for men, women and children.
- Creation of an information, education, and communications program that provides an ongoing mechanism for sharing information, lessons learned, and best practices that can be used in future barangay electrification activities in Mindanao, other Philippine regions, and more broadly in other USAID activities once the project is completed.

It is anticipated that the training, alliances and project development activities will be continued by partner NGOs, LGUs, IPPs, ECs, national government, and businesses after the completion of the project. This has been an underlying tenet in our community development, technical assistance and empowerment activities.

AMORE Barangay Information Matrix (as of May 31, 2005)

| No. | Area | Region | Province | Municipality | Barangay | Energized? | Date Energized | RE Funder | RE Technology | Households energized | Remarks | Community Organizing Status |
|-----|------|--------|-------------------|--------------------|----------------|------------|----------------|-----------|---------------|----------------------|---------------------------------|-----------------------------|
| 1 | 1 | ARMM | Sulu | Parang | Bukid | Yes | May 2005 | Mirant | PV SHS | 30 | Cleared for energization by DOE | Core group formed |
| 2 | 1 | ARMM | Sulu | Parang | Danapa | Yes | May 2005 | Mirant | PV SHS | 30 | Cleared for energization by DOE | Core group formed |
| 3 | 1 | ARMM | Sulu | Parang | Kutah Sairap | Yes | May 2005 | Mirant | PV SHS | 30 | Cleared for energization by DOE | Core group formed |
| 4 | 1 | ARMM | Sulu | Parang | Paugan | Yes | May 2005 | Mirant | PV SHS | 30 | Cleared for energization by DOE | Core group formed |
| 5 | 1 | ARMM | Sulu | Siasi | South Silumpak | Yes | May 2005 | Mirant | PV SHS | 30 | Cleared for energization by DOE | Core group formed |
| 6 | 1 | ARMM | Tawi-Tawi | South Ubian | Bohe | Yes | May 2005 | Mirant | PV SHS | 30 | Cleared for energization by DOE | Core group formed |
| 7 | 1 | ARMM | Tawi-Tawi | South Ubian | Lambi-lambian | Yes | May 2005 | Mirant | PV SHS | 30 | Cleared for energization by DOE | Core group formed |
| 8 | 1 | ARMM | Tawi-Tawi | South Ubian | Likod Dampong | Yes | May 2005 | Mirant | PV SHS | 30 | Cleared for energization by DOE | Core group formed |
| 9 | 1 | ARMM | Tawi-Tawi | South Ubian | Tukai | Yes | May 2005 | Mirant | PV SHS | 30 | Cleared for energization by DOE | Core group formed |
| 10 | 1 | ARMM | Tawi-Tawi | South Ubian | Unas-unas | Yes | May 2005 | Mirant | PV SHS | 30 | Cleared for energization by DOE | Core group formed |
| 11 | 2 | 9 | Zamboanga del Sur | Dinas | Pisaan | Yes | May 2005 | Mirant | PV SHS | 30 | Cleared for energization by DOE | Core group formed |
| 12 | 2 | 9 | Zamboanga del Sur | Dumingag | Danlugan | No | May 2005 | Mirant | PV SHS | 30 | Cleared for energization by DOE | Core group formed |
| 13 | 2 | 9 | Zamboanga del Sur | Dumingag | Datu Tutucan | No | May 2005 | Mirant | PV SHS | 30 | Cleared for energization by DOE | Core group formed |
| 14 | 2 | 9 | Zamboanga del Sur | Midsalip | Dakayanan | No | May 2005 | Mirant | PV SHS | 30 | Cleared for energization by DOE | Core group formed |
| 15 | 2 | 9 | Zamboanga del Sur | Midsalip | Kahayagan | No | May 2005 | Mirant | PV SHS | 30 | Cleared for energization by DOE | Core group formed |
| 16 | 2 | 9 | Zamboanga del Sur | Midsalip | Tuluan | No | May 2005 | Mirant | PV SHS | 30 | Cleared for energization by DOE | Core group formed |
| 17 | 2 | 9 | Zamboanga del Sur | Suminot | Pictoran | Yes | May 2005 | Mirant | PV SHS | 30 | Cleared for energization by DOE | Core group formed |
| 18 | 3 | ARMM | Maguindanao | Buluan | Tinambulan | Yes | May 2005 | Mirant | PV SHS | 30 | Cleared for energization by DOE | Core group formed |
| 19 | 3 | ARMM | Maguindanao | Pagagawan | Maridagao | Yes | May 2005 | Mirant | PV SHS | 30 | Cleared for energization by DOE | Core group formed |
| 20 | 3 | ARMM | Maguindanao | Pagagawan | Nabundas | Yes | May 2005 | Mirant | PV SHS | 30 | Cleared for energization by DOE | Core group formed |
| 21 | 3 | ARMM | Maguindanao | Pagalungan | Bagoenged | Yes | May 2005 | Mirant | PV SHS | 30 | Cleared for energization by DOE | Core group formed |
| 22 | 3 | ARMM | Maguindanao | Pagalungan | Kilangan | Yes | May 2005 | Mirant | PV SHS | 30 | Cleared for energization by DOE | Core group formed |
| 23 | 3 | ARMM | Maguindanao | Pagalungan | Linandangan | Yes | May 2005 | Mirant | PV SHS | 30 | Cleared for energization by DOE | Core group formed |
| 24 | 3 | ARMM | Maguindanao | Parang | Kutungan | Yes | May 2005 | Mirant | PV SHS | 30 | Cleared for energization by DOE | Core group formed |
| 25 | 3 | ARMM | Maguindanao | Parang | Limbayan | Yes | May 2005 | Mirant | PV SHS | 30 | Cleared for energization by DOE | Core group formed |
| 26 | 3 | ARMM | Maguindanao | Sultan sa Barongis | Darampua | Yes | May 2005 | Mirant | PV SHS | 30 | Cleared for energization by DOE | Core group formed |
| 27 | 3 | ARMM | Maguindanao | Sultan sa Barongis | Sampao | Yes | May 2005 | Mirant | PV SHS | 30 | Cleared for energization by DOE | Core group formed |

810

Total no. of barangays energized by AMORE (1 & 2): 227

Total no. of households energized by AMORE (1 & 2): 6,844

AMORE Barangay Projects Information Matrix (as of April 1, 2005)

| No. | Area | Region | Province | Municipality | Barangay | Type of Project | Name of Project | Partner | Project Status |
|-----|------|--------|-----------|-----------------|------------------------------|-----------------|---|-----------|----------------|
| 1 | 1 | ARMM | Tawi-Tawi | Bongao | Lagasan | Social Project | Jembi payphone | Globe | completed |
| 2 | 1 | ARMM | Tawi-Tawi | Bongao | Mandulan | | | | |
| 3 | 1 | ARMM | Tawi-Tawi | Bongao | Pababag | Livelihood | fish drying | BFAR | completed |
| 4 | 1 | ARMM | Tawi-Tawi | Bongao | Tongsinah | | | | |
| 5 | 1 | ARMM | Tawi-Tawi | Sapa-Sapa | Dalo-Dalo | Livelihood | microloans for seaweed farmers | Quedancor | completed |
| 6 | 1 | ARMM | Tawi-Tawi | Sapa-Sapa | Lakit-Lakit | | | | |
| 7 | 1 | ARMM | Tawi-Tawi | Sapa-Sapa | Sapaat | | | | |
| 8 | 1 | ARMM | Tawi-Tawi | Sapa-Sapa | Tambunan | Livelihood | microloans for seaweed farmers | Quedancor | completed |
| 9 | 1 | ARMM | Tawi-Tawi | Sapa-Sapa | Tapian Bohe North | | | | |
| 10 | 1 | ARMM | Tawi-Tawi | Sapa-Sapa | Tapian Bohe South | | | | |
| 11 | 2 | ARMM | Basilan | Isabela | Lampinigan | Livelihood | fattening of humpback groupers using RE | | completed |
| 12 | 2 | ARMM | Basilan | Lantawan | Baluk Baluk | | | | |
| 13 | 2 | ARMM | Basilan | Lantawan | Mananggal | | | | |
| 14 | 2 | ARMM | Basilan | Lantawan | Sangbay Big | | | | |
| 15 | 2 | ARMM | Basilan | Lantawan | Sangbay Small | | | | |
| 16 | 2 | ARMM | Basilan | Sumisip | Balanting | | | | |
| 17 | 2 | ARMM | Basilan | Sumisip | Boloh-Boloh | | | | |
| 18 | 2 | ARMM | Basilan | Sumisip | Bukot Umos | | | | |
| 19 | 2 | ARMM | Basilan | Sumisip | Kaumpurnah | | | | |
| 20 | 2 | ARMM | Basilan | Sumisip | Lanawan | | | | |
| 21 | 2 | ARMM | Basilan | Sumisip | Lower Cabengbeng | | | | |
| 22 | 2 | ARMM | Basilan | Sumisip | Pisak-Pisak | | | | |
| 23 | 2 | ARMM | Basilan | Sumisip | Saluping | Livelihood | seaweeds enhancement using lantay | | completed |
| 24 | 2 | ARMM | Basilan | Sumisip | Suligan | | | | |
| 25 | 2 | ARMM | Basilan | Sumisip | Sulloh | | | | |
| 26 | 2 | ARMM | Basilan | Sumisip | Tambulig Buton | | | | |
| 27 | 2 | ARMM | Basilan | Sumisip | Tong Umos | | | | |
| 28 | 2 | ARMM | Basilan | Tipo-Tipo | Batoh Mapoteh | | | | |
| 29 | 2 | ARMM | Basilan | Tipo-Tipo | Kamamburingan | | | | |
| 30 | 2 | ARMM | Basilan | Tipo-Tipo | Luuk Visayah (Kaulungan Is.) | | | | |
| 31 | 2 | ARMM | Basilan | Tipo-Tipo | Sangkahan (Kaulungan Is.) | | | | |
| 32 | 2 | ARMM | Basilan | Tuburan | Basakan | | | | |
| 33 | 2 | ARMM | Basilan | Tuburan | Linungan | | | | |
| 34 | 2 | ARMM | Basilan | Tuburan | Sibago | | | | |
| 35 | 2 | ARMM | Basilan | Tuburan | Sulitan Matangal | | | | |
| 36 | 1 | ARMM | Tawi-Tawi | Bongao | Kamagong | | | | |
| 37 | 1 | ARMM | Tawi-Tawi | Bongao | Lapid-Lapid | | | | |
| 38 | 1 | ARMM | Tawi-Tawi | Bongao | Lato-Lato | | | | |
| 39 | 1 | ARMM | Tawi-Tawi | Bongao | Pagatpat | | | | |
| 40 | 1 | ARMM | Tawi-Tawi | Bongao | Paniongan | | | | |
| 41 | 1 | ARMM | Tawi-Tawi | Bongao | Sumangat | Livelihood | cassava grater and presser | | completed |
| 42 | 1 | ARMM | Tawi-Tawi | Bongao | Ungus-Ungus | | | | |
| 43 | 1 | ARMM | Tawi-Tawi | Languyan | Bas Bas Likod | | | | |
| 44 | 1 | ARMM | Tawi-Tawi | Languyan | Bas Nunuk | | | | |
| 45 | 1 | ARMM | Tawi-Tawi | Languyan | Darul Akram | | | | |
| 46 | 1 | ARMM | Tawi-Tawi | Languyan | Darussalam | | | | |
| 47 | 1 | ARMM | Tawi-Tawi | Languyan | Kalupag (Sidalling) | | | | |
| 48 | 1 | ARMM | Tawi-Tawi | Languyan | Parang Pantay | | | | |
| 49 | 1 | ARMM | Tawi-Tawi | Languyan | Tumbagaan Proper | | | | |
| 50 | 1 | ARMM | Tawi-Tawi | Panglima Sugala | Balimbing | | | | |
| 51 | 1 | ARMM | Tawi-Tawi | Panglima Sugala | Buan | | | | |
| 52 | 1 | ARMM | Tawi-Tawi | Panglima Sugala | Dungon | | | | |

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|----|---|------|-------------|-----------------|----------------|----------------|-----------------------------------|-------|-----------|
| 53 | 1 | ARMM | Tawi-Tawi | Panglima Sugala | Karaha | | | | |
| 54 | 1 | ARMM | Tawi-Tawi | Panglima Sugala | Sumangday | | | | |
| 55 | 1 | ARMM | Tawi-Tawi | Panglima Sugala | Tondon | | | | |
| 56 | 1 | ARMM | Tawi-Tawi | Sapa-Sapa | Lookan Latuan | | | | |
| 57 | 1 | ARMM | Tawi-Tawi | Sapa-Sapa | Luuk Nato | | | | |
| 58 | 1 | ARMM | Tawi-Tawi | Sapa-Sapa | Malanta | | | | |
| 59 | 1 | ARMM | Tawi-Tawi | Sapa-Sapa | Palate | | | | |
| 60 | 1 | ARMM | Tawi-Tawi | Sapa-Sapa | Sokah-Sokah | | | | |
| 61 | 1 | ARMM | Tawi-Tawi | Sapa-Sapa | Sunsang Latuan | | | | |
| 62 | 3 | ARMM | Maguindanao | Datu Paglas | Kalumenga | Livelihood | grains dryer | | completed |
| | 3 | ARMM | Maguindanao | Datu Paglas | Kalumenga | Livelihood | high value vegetable farming | | completed |
| 63 | 3 | ARMM | Maguindanao | Datu Paglas | Napok | Livelihood | high value vegetable farming | | completed |
| | 3 | ARMM | Maguindanao | Datu Paglas | Napok | Social Project | SMART Talk 'n Text Tawag center | SMART | completed |
| 64 | 3 | ARMM | Maguindanao | SK Pendatun | Bulod | | | | |
| 65 | 3 | ARMM | Maguindanao | SK Pendatun | Lao-lao | Livelihood | high value vegetable farming | | completed |
| | 3 | ARMM | Maguindanao | SK Pendatun | Lao-lao | Social Project | SMART Talk 'n Text Tawag Center | SMART | completed |
| 66 | 3 | ARMM | Maguindanao | SK Pendatun | Sumakubay | Livelihood | high value vegetable farming | | completed |
| | 3 | ARMM | Maguindanao | SK Pendatun | Sumakubay | Social Project | SMART Talk 'n Text Tawag Center | SMART | completed |
| 67 | 3 | ARMM | Maguindanao | SK Pendatun | Tonggol | | | | |
| 68 | 1 | ARMM | Tawi-Tawi | Bongao | Silubbog | | | | |
| 69 | 1 | ARMM | Tawi-Tawi | Bongao | Tarawakan | | | | |
| 70 | 1 | ARMM | Tawi-Tawi | Languyan | Bas Bas Proper | | | | |
| 71 | 1 | ARMM | Tawi-Tawi | Panglima Sugala | Kulape | | | | |
| 72 | 1 | ARMM | Tawi-Tawi | Panglima Sugala | Tabunan | | | | |
| 73 | 1 | ARMM | Tawi-Tawi | Sapa-Sapa | Butun | | | | |
| 74 | 1 | ARMM | Tawi-Tawi | Sapa-Sapa | Pamasan | | | | |
| 75 | 1 | ARMM | Tawi-Tawi | South Ubian | Laud | | | | |
| 76 | 1 | ARMM | Tawi-Tawi | South Ubian | Pampang | | | | |
| 77 | 1 | ARMM | Tawi-Tawi | South Ubian | Tangngah | | | | |
| 78 | 1 | ARMM | Tawi-Tawi | Tandubas | Butun | | | | |
| 79 | 1 | ARMM | Tawi-Tawi | Tandubas | Himbah | | | | |
| 80 | 1 | ARMM | Tawi-Tawi | Tandubas | Kepeng | | | | |
| 81 | 1 | ARMM | Tawi-Tawi | Tandubas | Tapian Sokah | | | | |
| 82 | 2 | ARMM | Sulu | Tongkil | Bakkaan | Livelihood | seaweeds enhancement using lantay | | completed |
| 83 | 2 | ARMM | Sulu | Tongkil | Bangalaw | | | | |
| 84 | 2 | ARMM | Sulu | Tongkil | Danao | | | | |
| 85 | 2 | ARMM | Sulu | Tongkil | Kahikukuk | Livelihood | seaweeds enhancement using lantay | | completed |
| 86 | 2 | ARMM | Sulu | Tongkil | Luuk Poblacion | Livelihood | seaweeds enhancement using lantay | | completed |
| 87 | 2 | ARMM | Sulu | Tongkil | North Paarol | | | | |
| 88 | 2 | ARMM | Sulu | Tongkil | Sigumbal | Livelihood | seaweeds enhancement using lantay | | completed |
| 89 | 2 | ARMM | Sulu | Tongkil | South Paarol | Livelihood | seaweeds enhancement using lantay | | completed |
| 90 | 2 | ARMM | Sulu | Tongkil | Tabialan | Livelihood | seaweeds enhancement using lantay | | completed |
| 91 | 2 | ARMM | Sulu | Tongkil | Taenga Bakkaw | | | | |
| 92 | 2 | ARMM | Sulu | Tongkil | Tambun-bubu | | | | |
| 93 | 2 | ARMM | Sulu | Tongkil | Tattalan | | | | |
| 94 | 2 | ARMM | Sulu | Tongkil | Tinutungan | | | | |
| 95 | 3 | 11 | Davao City | Davao City | Magsaysay | | | | |
| 96 | 3 | 11 | Davao City | Davao City | Saloy | Livelihood | integrated grain and bean mill | | completed |
| | 3 | 11 | Davao City | Davao City | Saloy | Livelihood | high value vegetable farming | | completed |
| | 3 | 11 | Davao City | Davao City | Saloy | Social Project | computer center | | completed |
| | 3 | 11 | Davao City | Davao City | Saloy | Social Project | community theater | | completed |
| 97 | 2 | ARMM | Sulu | Siasi | Bakud | Livelihood | seaweeds enhancement using lantay | | completed |
| 98 | 2 | ARMM | Sulu | Siasi | Duggo | Livelihood | seaweeds enhancement using lantay | | completed |
| 99 | 2 | ARMM | Sulu | Siasi | Latung | Livelihood | seaweeds enhancement using lantay | | completed |

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|-----|---|------|-------------------|----------------|------------------------|----------------|--|-------|-----------|
| 100 | 2 | ARMM | Sulu | Siasi | Siolakan | Livelihood | seaweeds enhancement using lantay | | completed |
| 101 | 2 | 9 | Zamboanga City | Zamboanga City | Manalipa | Livelihood | fattening of humpback groupers using RE | | completed |
| 102 | 2 | 9 | Zamboanga City | Zamboanga City | Pangapuyan | Livelihood | seaweeds enhancement using lantay | | completed |
| | 2 | 9 | Zamboanga City | Zamboanga City | Pangapuyan | Social Project | community theater | | completed |
| 103 | 2 | 9 | Zamboanga City | Zamboanga City | Tigtabon | Livelihood | seaweeds enhancement using lantay | | completed |
| | 2 | 9 | Zamboanga City | Zamboanga City | Tigtabon | Social Project | school electrification & educational TV | | completed |
| | 2 | 9 | Zamboanga City | Zamboanga City | Tigtabon | Social Project | rehabilitation of rainwater catchment system | | completed |
| 104 | 2 | 9 | Zamboanga City | Zamboanga City | Tumalutab | Livelihood | fattening of humpback groupers using RE | | |
| 105 | 1 | ARMM | Tawi-Tawi | Languyan | Jakarta | | | | |
| 106 | 1 | ARMM | Tawi-Tawi | Languyan | Kiniktal | | | | |
| 107 | 1 | ARMM | Tawi-Tawi | Languyan | Simalak | | | | |
| 108 | 1 | ARMM | Tawi-Tawi | Languyan | Tubig Dakula | | | | |
| 109 | 1 | ARMM | Tawi-Tawi | Languyan | Tumahubong | | | | |
| 110 | 1 | ARMM | Tawi-Tawi | Sapa-Sapa | Lookan Bannaran | | | | |
| 111 | 1 | ARMM | Tawi-Tawi | Sapa-Sapa | Tangngah | | | | |
| 112 | 1 | ARMM | Tawi-Tawi | South Ubian | Bunai-Bunai Lookan | | | | |
| 113 | 1 | ARMM | Tawi-Tawi | South Ubian | Bunai-Bunai Tong | | | | |
| 114 | 1 | ARMM | Tawi-Tawi | South Ubian | Tubig Dayang Center | | | | |
| 115 | 1 | ARMM | Tawi-Tawi | South Ubian | Tubig Dayang Riverside | | | | |
| 116 | 1 | ARMM | Tawi-Tawi | South Ubian | Tubig Dayang West | | | | |
| 117 | 1 | ARMM | Tawi-Tawi | Tandubas | Sallangan | | | | |
| 118 | 2 | 9 | Zamboanga Sibugay | Alicia | Kapatagan | | | | |
| 119 | 2 | 9 | Zamboanga Sibugay | Olutanga | Pulo Laum | Livelihood | seaweeds enhancement using lantay | | completed |
| 120 | 2 | 9 | Zamboanga Sibugay | Payao | Fatima | | | | |
| 121 | 2 | 9 | Zamboanga Sibugay | RT Lim | Remedios | | | | |
| 122 | 2 | 9 | Zamboanga Sibugay | Titay | New Canaan | | | | |
| 123 | 2 | 9 | Zamboanga Sibugay | Tungawan | Tigbucay | | | | |
| 124 | 3 | ARMM | Maguindanao | Buluan | Kalian | Social Project | community library | | completed |
| | 3 | ARMM | Maguindanao | Buluan | Kalian | Social Project | SMART Talk 'n Text Tawag Center | SMART | completed |
| 125 | 3 | ARMM | Maguindanao | Buluan | Paitan | | | | |
| 126 | 3 | ARMM | Maguindanao | Buluan | Talitay | Social Project | reading center | | completed |
| 127 | 3 | ARMM | Maguindanao | Buluan | Tumbao | | | | |
| 128 | 3 | ARMM | Maguindanao | Datu Paglas | Mangadeg | | | | |
| 129 | 3 | ARMM | Maguindanao | Datu Paglas | Mao | | | | |
| 130 | 3 | ARMM | Maguindanao | Datu Paglas | Puya | | | | |
| 131 | 3 | ARMM | Maguindanao | Mama sa Pano | Daladap | | | | |
| 132 | 3 | ARMM | Maguindanao | SK Pendatun | Kulasi | | | | |
| 133 | 3 | ARMM | Maguindanao | SK Pendatun | Panosolen | Livelihood | high value vegetable farming | | completed |
| 134 | 3 | 12 | Sultan Kudarat | Lutayan | Bayasong | Livelihood | high value vegetable farming | | completed |
| 135 | 3 | 12 | Sultan Kudarat | Lutayan | Maindang | Livelihood | high value vegetable farming | | completed |
| 136 | 3 | 12 | Sultan Kudarat | Lutayan | Mamali | Livelihood | high value vegetable farming | | completed |
| 137 | 2 | 9 | Zamboanga Sibugay | Buug | Agutayan | | | | |
| 138 | 2 | 9 | Zamboanga Sibugay | Siy | Magsaysay | | | | |
| 139 | 3 | 11 | Davao City | Davao City | Dalag | | | | |
| 140 | 3 | 11 | Davao del Norte | Panabo City | Katualan | | | | |
| 141 | 3 | 11 | Davao del Sur | Sto. Tomas | Magwawa | | | | |
| 142 | 3 | 11 | Davao City | Mariilog | Bantol | | | | |
| 143 | 1 | ARMM | Tawi-Tawi | Sapa-Sapa | Tonggusong Banaran | | | | |
| 144 | 1 | ARMM | Tawi-Tawi | Sapa-Sapa | Toptop Banaran | | | | |
| 145 | 1 | ARMM | Tawi-Tawi | Sitangkai | North Larap | | | | |
| 146 | 1 | ARMM | Tawi-Tawi | Sitangkai | Sipangkot | | | | |
| 147 | 1 | ARMM | Tawi-Tawi | Sitangkai | South Larap | | | | |
| 148 | 1 | ARMM | Tawi-Tawi | Sitangkai | Ungus-Ungus | | | | |
| 149 | 2 | 9 | Zamboanga Sibugay | Alicia | Lapaz | | | | |

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|-----|---|------|-------------------|---------------------------------|---------------------------------|----------------|---|-------|-------------------------|
| 150 | 2 | 9 | Zamboanga Sibugay | Kabasalan | Shiolan | | | | |
| 151 | 2 | 9 | Zamboanga Sibugay | Mabuhay | Sioton | | | | |
| 152 | 2 | 9 | Zamboanga Sibugay | Siay | Prinsesa Sumama | | | | |
| 153 | 2 | 9 | Zamboanga Sibugay | Tungawan | Little Margos | | | | |
| 154 | 2 | 9 | Zamboanga del Sur | Bayog | Dagum | | | | |
| 155 | 2 | 9 | Zamboanga del Sur | Bayog | Deporehan | | | | |
| 156 | 2 | 9 | Zamboanga del Sur | Bayog | Dimalinao | | | | |
| 157 | 2 | 9 | Zamboanga del Sur | Kumalarang | Kitaang Dagat | | | | |
| 158 | 2 | 9 | Zamboanga del Sur | Kumalarang | Limamawang | | | | |
| 159 | 3 | ARMM | Maguindanao | Buluan | Daldagan | | | | |
| 160 | 3 | ARMM | Maguindanao | Buluan | Lepak | | | | |
| 161 | 3 | ARMM | Maguindanao | Buluan | Lower Diag | | | | |
| 162 | 3 | ARMM | Maguindanao | Buluan | Panapan | | | | |
| 163 | 3 | ARMM | Maguindanao | Buluan | Upper Diag | | | | |
| 164 | 3 | ARMM | Maguindanao | Buluan | Tenok | | | | |
| 165 | 3 | ARMM | Maguindanao | Datu Abdullah Sangki (Ampatuan) | Maranding | | | | |
| 166 | 3 | ARMM | Maguindanao | Datu Abdullah Sangki (Ampatuan) | Tuka na Lugong | | | | |
| 167 | 3 | ARMM | Maguindanao | Datu Paglas | Makat | | | | |
| 168 | 3 | ARMM | Maguindanao | Datu Paglas | Palao sa Buto | | | | |
| 169 | 3 | ARMM | Maguindanao | Datu Paglas | Sepaka | | | | |
| 170 | 3 | ARMM | Maguindanao | Mamasapano | Bagumbong | | | | |
| 171 | 3 | ARMM | Maguindanao | Mamasapano | Dungangen | | | | |
| 172 | 3 | ARMM | Maguindanao | Mamasapano | Lusay | | | | |
| 173 | 3 | ARMM | Maguindanao | Pagalungan | Kalbugan | | | | |
| 174 | 3 | ARMM | Maguindanao | Pagalungan | Talitay | | | | |
| 175 | 3 | ARMM | Maguindanao | Shariff Aguak | Kuloy | | | | |
| 176 | 3 | ARMM | Maguindanao | Shariff Aguak | Lapok (Lepok) | | | | |
| 177 | 3 | ARMM | Maguindanao | Shariff Aguak | Malingao | | | | |
| 178 | 3 | ARMM | Maguindanao | SK Pendatun | Lumabao | | | | |
| 179 | 3 | ARMM | Maguindanao | SK Pendatun | Midpandakan | | | | |
| 180 | 3 | ARMM | Maguindanao | Sultan sa Barongis | Tugal | | | | |
| 181 | 3 | ARMM | Maguindanao | Buluan | Kabuling | | | | |
| 182 | 3 | ARMM | Maguindanao | Columbio | Polomolok | | | | |
| 183 | 3 | ARMM | Maguindanao | Datu Paglas | Elbebe | | | | |
| 184 | 3 | ARMM | Maguindanao | SK Pendatun | Kaladturan | | | | |
| 185 | 3 | ARMM | Maguindanao | Shariff Aguak | Tapikan | | | | |
| 186 | 3 | ARMM | Maguindanao | Buluan | Bulod | | | | |
| 187 | 3 | 12 | Sultan Kudarat | Bagumbayan | Chua | Livelihood | integrated grain and bean mill | | completed |
| | 3 | 12 | Sultan Kudarat | Bagumbayan | Chua | Livelihood | high value vegetable farming | | completed |
| | 3 | 12 | Sultan Kudarat | Bagumbayan | Chua | Social Project | school electrification & educational TV | | completed |
| | 3 | 12 | Sultan Kudarat | Bagumbayan | Chua | Social Project | potable water system | Japan | completed |
| 188 | 3 | 12 | Sultan Kudarat | Columbio | Bgy. Datalblao (Sitio Lam-alis) | Livelihood | integrated grain and bean mill | | targeted for April 2005 |
| | 3 | 12 | Sultan Kudarat | Columbio | Bgy. Datalblao (Sitio Lam-alis) | Social Project | IBM KidSmart Early Learning Center | IBM | completed |
| | 3 | 12 | Sultan Kudarat | Columbio | Bgy. Datalblao (Sitio Lam-alis) | Social Project | SMART Talk 'n Text Tawag Center | SMART | completed |
| 189 | 2 | ARMM | Basilan | Maluso | Tamuk | | | | |
| 190 | 2 | ARMM | Basilan | Pilas Island | Lubukan | | | | |
| 191 | 2 | ARMM | Basilan | Pilas Island | Luuk Bungsod | | | | |
| 192 | 2 | ARMM | Basilan | Pilas Island | Tausan | | | | |
| 193 | 2 | 9 | Zamboanga del Sur | Lakewood | Dagum | | | | |
| 194 | 2 | 9 | Zamboanga del Sur | Lakewood | Matalang | | | | |
| 195 | 2 | ARMM | Sulu | Siasi | Duhul Tara | Livelihood | seaweeds enhancement using lantay | | completed |
| 196 | 2 | ARMM | Sulu | Siasi | Ipil | Livelihood | seaweeds enhancement using lantay | | completed |
| 197 | 2 | ARMM | Sulu | Siasi | North Manta | Livelihood | seaweeds enhancement using lantay | | completed |
| 198 | 3 | ARMM | Maguindanao | Shariff Aguak | Angkayamat | | | | |

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|-----|---|------|-------------|--------------------|--------------|--|--|--|--|
| 199 | 3 | ARMM | Maguindanao | Shariff Aguak | Tina | | | | |
| 200 | 3 | ARMM | Maguindanao | Sultan sa Barongis | Masulot | | | | |
| 201 | 2 | ARMM | Sulu | Parang | Bukid | | | | |
| 202 | 2 | ARMM | Sulu | Parang | Danapa | | | | |
| 203 | 2 | ARMM | Sulu | Parang | Kuta Sa Irap | | | | |
| 204 | 2 | ARMM | Sulu | Parang | Paugan | | | | |
| 205 | 2 | ARMM | Sulu | Parang | Tukay | | | | |

ANNEX B. AMORE Barangay Energization Matrix

| No. | Area | Region | Province | Municipality | Barangay | Date Energized | RE Funder | RE Technology | Households Lighted | Community Centers Lighted | Streetlights Installed | Remarks | Community Organizing Status |
|-----|------|--------|-----------|-----------------|------------------------------|----------------|-----------|---------------|--------------------|---------------------------|------------------------|--------------------------|-----------------------------|
| 1 | 1 | ARMM | Tawi-Tawi | Bongao | Lagasan | Aug-02 | Mirant | PV BCS | 30 | 1 | 2 | Credited to AMORE by DOE | BRECDCA organized |
| 2 | 1 | ARMM | Tawi-Tawi | Bongao | Mandulan | Aug-02 | Mirant | PV BCS | 30 | 1 | 2 | Credited to AMORE by DOE | BRECDCA organized |
| 3 | 1 | ARMM | Tawi-Tawi | Bongao | Pababag | Aug-02 | Mirant | PV BCS | 30 | 1 | 2 | Credited to AMORE by DOE | BRECDCA organized |
| 4 | 1 | ARMM | Tawi-Tawi | Bongao | Tongsinah | Aug-02 | Mirant | PV BCS | 30 | 1 | 2 | Credited to AMORE by DOE | BRECDCA organized |
| 5 | 1 | ARMM | Tawi-Tawi | Sapa-Sapa | Dalo-Dalo | Aug-02 | Mirant | PV BCS | 30 | 1 | 2 | Credited to AMORE by DOE | BRECDCA organized |
| 6 | 1 | ARMM | Tawi-Tawi | Sapa-Sapa | Lakit-Lakit | Aug-02 | Mirant | PV BCS | 30 | 1 | 2 | Credited to AMORE by DOE | BRECDCA organized |
| 7 | 1 | ARMM | Tawi-Tawi | Sapa-Sapa | Sapaat | Aug-02 | Mirant | PV BCS | 30 | 1 | 2 | Credited to AMORE by DOE | BRECDCA organized |
| 8 | 1 | ARMM | Tawi-Tawi | Sapa-Sapa | Tambunan | Aug-02 | Mirant | PV BCS | 30 | 1 | 2 | Credited to AMORE by DOE | BRECDCA organized |
| 9 | 1 | ARMM | Tawi-Tawi | Sapa-Sapa | Tapian Bohe North | Aug-02 | Mirant | PV BCS | 30 | 1 | 2 | Credited to AMORE by DOE | BRECDCA organized |
| 10 | 1 | ARMM | Tawi-Tawi | Sapa-Sapa | Tapian Bohe South | Aug-02 | Mirant | PV BCS | 30 | 1 | 2 | Credited to AMORE by DOE | BRECDCA organized |
| 11 | 2 | ARMM | Basilan | Isabela | Lampinigan | Jun-03 | Mirant | PV BCS | 30 | 1 | 2 | Credited to AMORE by DOE | BRECDCA organized |
| 12 | 2 | ARMM | Basilan | Lantawan | Baluk Baluk | Jun-03 | Mirant | PV BCS | 30 | 1 | 2 | Credited to AMORE by DOE | BRECDCA organized |
| 13 | 2 | ARMM | Basilan | Lantawan | Mananggal | Jun-03 | Mirant | PV BCS | 30 | 1 | 2 | Credited to AMORE by DOE | BRECDCA organized |
| 14 | 2 | ARMM | Basilan | Lantawan | Sangbay Big | Jun-03 | Mirant | PV BCS | 30 | 1 | 2 | Credited to AMORE by DOE | BRECDCA organized |
| 15 | 2 | ARMM | Basilan | Lantawan | Sangbay Small | Jun-03 | Mirant | PV BCS | 30 | 1 | 2 | Credited to AMORE by DOE | BRECDCA organized |
| 16 | 2 | ARMM | Basilan | Sumisip | Balanting | Jun-03 | Mirant | PV BCS | 30 | 1 | 2 | Credited to AMORE by DOE | BRECDCA organized |
| 17 | 2 | ARMM | Basilan | Sumisip | Boloh-Boloh | Jun-03 | Mirant | PV BCS | 30 | 1 | 2 | Credited to AMORE by DOE | BRECDCA organized |
| 18 | 2 | ARMM | Basilan | Sumisip | Bukot Umos | Jun-03 | Mirant | PV BCS | 30 | 1 | 2 | Credited to AMORE by DOE | BRECDCA organized |
| 19 | 2 | ARMM | Basilan | Sumisip | Kaumpurnah | Jun-03 | Mirant | PV BCS | 30 | 1 | 2 | Credited to AMORE by DOE | BRECDCA organized |
| 20 | 2 | ARMM | Basilan | Sumisip | Lanawan | Jun-03 | Mirant | PV BCS | 30 | 1 | 2 | Credited to AMORE by DOE | BRECDCA organized |
| 21 | 2 | ARMM | Basilan | Sumisip | Lower Cabengbeng | Jun-03 | Mirant | PV BCS | 30 | 1 | 2 | Credited to AMORE by DOE | BRECDCA organized |
| 22 | 2 | ARMM | Basilan | Sumisip | Pisak-Pisak | Jun-03 | Mirant | PV BCS | 30 | 1 | 2 | Credited to AMORE by DOE | BRECDCA organized |
| 23 | 2 | ARMM | Basilan | Sumisip | Saluping | Jun-03 | Mirant | PV BCS | 30 | 1 | 2 | Credited to AMORE by DOE | BRECDCA organized |
| 24 | 2 | ARMM | Basilan | Sumisip | Suligan | Jun-03 | Mirant | PV BCS | 30 | 1 | 2 | Credited to AMORE by DOE | BRECDCA organized |
| 25 | 2 | ARMM | Basilan | Sumisip | Sulloh | Jun-03 | Mirant | PV BCS | 30 | 1 | 2 | Credited to AMORE by DOE | BRECDCA organized |
| 26 | 2 | ARMM | Basilan | Sumisip | Tambulig Buton | Jun-03 | Mirant | PV BCS | 30 | 1 | 2 | Credited to AMORE by DOE | BRECDCA organized |
| 27 | 2 | ARMM | Basilan | Sumisip | Tong Umos | Jun-03 | Mirant | PV BCS | 30 | 1 | 2 | Credited to AMORE by DOE | BRECDCA organized |
| 28 | 2 | ARMM | Basilan | Tipo-Tipo | Batoh Mapoteh | Jun-03 | Mirant | PV BCS | 30 | 1 | 2 | Credited to AMORE by DOE | BRECDCA organized |
| 29 | 2 | ARMM | Basilan | Tipo-Tipo | Kamamburingan | Jun-03 | Mirant | PV BCS | 30 | 1 | 2 | Credited to AMORE by DOE | BRECDCA organized |
| 30 | 2 | ARMM | Basilan | Tipo-Tipo | Luuk Visayah (Kaulungan Is.) | Jun-03 | Mirant | PV BCS | 30 | 1 | 2 | Credited to AMORE by DOE | BRECDCA organized |
| 31 | 2 | ARMM | Basilan | Tipo-Tipo | Sangkahan (Kaulungan Is.) | Jun-03 | Mirant | PV BCS | 30 | 1 | 2 | Credited to AMORE by DOE | BRECDCA organized |
| 32 | 2 | ARMM | Basilan | Tuburan | Basakan | Jun-03 | Mirant | PV BCS | 30 | 1 | 2 | Credited to AMORE by DOE | BRECDCA organized |
| 33 | 2 | ARMM | Basilan | Tuburan | Linungan | Jun-03 | Mirant | PV BCS | 30 | 1 | 2 | Credited to AMORE by DOE | BRECDCA organized |
| 34 | 2 | ARMM | Basilan | Tuburan | Sibago | Jun-03 | Mirant | PV BCS | 30 | 1 | 2 | Credited to AMORE by DOE | BRECDCA organized |
| 35 | 2 | ARMM | Basilan | Tuburan | Sulitan Matangal | Jun-03 | Mirant | PV BCS | 30 | 1 | 2 | Credited to AMORE by DOE | BRECDCA organized |
| 36 | 1 | ARMM | Tawi-Tawi | Bongao | Kamagong | Sep-03 | USAID | PV BCS | 30 | 1 | 2 | Credited to AMORE by DOE | BRECDCA organized |
| 37 | 1 | ARMM | Tawi-Tawi | Bongao | Lapid-Lapid | Sep-03 | USAID | PV BCS | 30 | 1 | 2 | Credited to AMORE by DOE | BRECDCA organized |
| 38 | 1 | ARMM | Tawi-Tawi | Bongao | Lato-Lato | Sep-03 | USAID | PV BCS | 30 | 1 | 2 | Credited to AMORE by DOE | BRECDCA organized |
| 39 | 1 | ARMM | Tawi-Tawi | Bongao | Pagatpat | Sep-03 | USAID | PV BCS | 30 | 1 | 2 | Credited to AMORE by DOE | BRECDCA organized |
| 40 | 1 | ARMM | Tawi-Tawi | Bongao | Paniongan | Sep-03 | USAID | PV BCS | 30 | 1 | 2 | Credited to AMORE by DOE | BRECDCA organized |
| 41 | 1 | ARMM | Tawi-Tawi | Bongao | Sumangat | Sep-03 | USAID | PV BCS | 30 | 1 | 2 | Credited to AMORE by DOE | BRECDCA organized |
| 42 | 1 | ARMM | Tawi-Tawi | Bongao | Ungus-Ungus | Sep-03 | USAID | PV BCS | 30 | 1 | 2 | Credited to AMORE by DOE | BRECDCA organized |
| 43 | 1 | ARMM | Tawi-Tawi | Languyan | Bas Bas Likod | Sep-03 | USAID | PV BCS | 30 | 1 | 2 | Credited to AMORE by DOE | BRECDCA organized |
| 44 | 1 | ARMM | Tawi-Tawi | Languyan | Bas Nunuk | Sep-03 | USAID | PV BCS | 30 | 1 | 2 | Credited to AMORE by DOE | BRECDCA organized |
| 45 | 1 | ARMM | Tawi-Tawi | Languyan | Darul Akram | Sep-03 | USAID | PV BCS | 30 | 1 | 2 | Credited to AMORE by DOE | BRECDCA organized |
| 46 | 1 | ARMM | Tawi-Tawi | Languyan | Darussalam | Sep-03 | USAID | PV BCS | 30 | 1 | 2 | Credited to AMORE by DOE | BRECDCA organized |
| 47 | 1 | ARMM | Tawi-Tawi | Languyan | Kalupag (Sidalling) | Sep-03 | USAID | PV BCS | 30 | 1 | 2 | Credited to AMORE by DOE | BRECDCA organized |
| 48 | 1 | ARMM | Tawi-Tawi | Languyan | Parang Pantay | Sep-03 | USAID | PV BCS | 30 | 1 | 2 | Credited to AMORE by DOE | BRECDCA organized |
| 49 | 1 | ARMM | Tawi-Tawi | Languyan | Tumbagaan Proper | Sep-03 | USAID | PV BCS | 30 | 1 | 2 | Credited to AMORE by DOE | BRECDCA organized |
| 50 | 1 | ARMM | Tawi-Tawi | Panglima Sugala | Balimbing | Sep-03 | USAID | PV BCS | 30 | 1 | 2 | Credited to AMORE by DOE | BRECDCA organized |
| 51 | 1 | ARMM | Tawi-Tawi | Panglima Sugala | Buan | Sep-03 | USAID | PV BCS | 30 | 1 | 2 | Credited to AMORE by DOE | BRECDCA organized |

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|-----|---|------|----------------|-----------------|----------------|--------|--------|--|----|---|--------------|--|--|
| 52 | 1 | ARMM | Tawi-Tawi | Panglima Sugala | Dungon | Sep-03 | USAID | PV BCS | 30 | 1 | 2 | Credited to AMORE by DOE | BRECDA organized |
| 53 | 1 | ARMM | Tawi-Tawi | Panglima Sugala | Karahah | Sep-03 | USAID | PV BCS | 30 | 1 | 2 | Credited to AMORE by DOE | BRECDA organized |
| 54 | 1 | ARMM | Tawi-Tawi | Panglima Sugala | Sumangday | Sep-03 | USAID | PV BCS | 30 | 1 | 2 | Credited to AMORE by DOE | BRECDA organized |
| 55 | 1 | ARMM | Tawi-Tawi | Panglima Sugala | Tondon | Sep-03 | USAID | PV BCS | 30 | 1 | 2 | Credited to AMORE by DOE | BRECDA organized |
| 56 | 1 | ARMM | Tawi-Tawi | Sapa-Sapa | Lookan Latuan | Sep-03 | USAID | PV BCS | 30 | 1 | 2 | Credited to AMORE by DOE | BRECDA organized |
| 57 | 1 | ARMM | Tawi-Tawi | Sapa-Sapa | Luuk Nato | Sep-03 | USAID | PV BCS | 30 | 1 | 2 | Credited to AMORE by DOE | BRECDA organized |
| 58 | 1 | ARMM | Tawi-Tawi | Sapa-Sapa | Malanta | Sep-03 | USAID | PV BCS | 30 | 1 | 2 | Credited to AMORE by DOE | BRECDA organized |
| 59 | 1 | ARMM | Tawi-Tawi | Sapa-Sapa | Palate | Sep-03 | USAID | PV BCS | 30 | 1 | 2 | Credited to AMORE by DOE | BRECDA organized |
| 60 | 1 | ARMM | Tawi-Tawi | Sapa-Sapa | Sokah-Sokah | Sep-03 | USAID | PV BCS | 30 | 1 | 2 | Credited to AMORE by DOE | BRECDA organized |
| 61 | 1 | ARMM | Tawi-Tawi | Sapa-Sapa | Sunsang Latuan | Sep-03 | USAID | PV BCS | 30 | 1 | 2 | Credited to AMORE by DOE | BRECDA organized |
| 62 | 3 | ARMM | Maguindanao | Datu Paglas | Kalumenga | Sep-03 | USAID | PV BCS | 30 | 1 | 2 | Credited to AMORE by DOE | BRECDA organized |
| 63 | 3 | ARMM | Maguindanao | Datu Paglas | Napok | Sep-03 | USAID | PV BCS | 30 | 1 | 2 | Credited to AMORE by DOE | BRECDA organized |
| 64 | 3 | ARMM | Maguindanao | SK Pendatun | Bulod | Sep-03 | USAID | PV BCS | 30 | 1 | 2 | Credited to AMORE by DOE | BRECDA organized |
| 65 | 3 | ARMM | Maguindanao | SK Pendatun | Lao-lao | Sep-03 | USAID | PV BCS | 30 | 1 | 2 | Credited to AMORE by DOE | BRECDA organized |
| 66 | 3 | ARMM | Maguindanao | SK Pendatun | Sumakubay | Sep-03 | USAID | PV BCS | 30 | 1 | 2 | Credited to AMORE by DOE | BRECDA organized |
| 67 | 3 | ARMM | Maguindanao | SK Pendatun | Tonggol | Sep-03 | USAID | PV BCS | 30 | 1 | 2 | Credited to AMORE by DOE | BRECDA organized |
| 68 | 1 | ARMM | Tawi-Tawi | Bongao | Silubbog | Oct-03 | USAID | PV BCS | 30 | 1 | 2 | Credited to AMORE by DOE | BRECDA organized |
| 69 | 1 | ARMM | Tawi-Tawi | Bongao | Tarawakan | Oct-03 | USAID | PV BCS | 30 | 1 | 2 | Credited to AMORE by DOE | BRECDA organized |
| 70 | 1 | ARMM | Tawi-Tawi | Languyan | Bas Bas Proper | Oct-03 | USAID | PV BCS | 30 | 1 | 2 | Credited to AMORE by DOE | BRECDA organized |
| 71 | 1 | ARMM | Tawi-Tawi | Panglima Sugala | Kulape | Oct-03 | USAID | PV BCS | 30 | 1 | 2 | Credited to AMORE by DOE | BRECDA organized |
| 72 | 1 | ARMM | Tawi-Tawi | Panglima Sugala | Tabunan | Oct-03 | USAID | PV BCS | 30 | 1 | 2 | Credited to AMORE by DOE | BRECDA organized |
| 73 | 1 | ARMM | Tawi-Tawi | Sapa-Sapa | Butun | Oct-03 | USAID | PV BCS | 30 | 1 | 2 | Credited to AMORE by DOE | BRECDA organized |
| 74 | 1 | ARMM | Tawi-Tawi | Sapa-Sapa | Pamasan | Oct-03 | USAID | PV BCS | 30 | 1 | 2 | Credited to AMORE by DOE | BRECDA organized |
| 75 | 1 | ARMM | Tawi-Tawi | South Ubian | Laud | Oct-03 | USAID | PV BCS | 30 | 1 | 2 | Credited to AMORE by DOE | BRECDA organized |
| 76 | 1 | ARMM | Tawi-Tawi | South Ubian | Pampang | Oct-03 | USAID | PV BCS | 30 | 1 | 2 | Credited to AMORE by DOE | BRECDA organized |
| 77 | 1 | ARMM | Tawi-Tawi | South Ubian | Tangngah | Oct-03 | USAID | PV BCS | 30 | 1 | 2 | Credited to AMORE by DOE | BRECDA organized |
| 78 | 1 | ARMM | Tawi-Tawi | Tandubas | Butun | Oct-03 | USAID | PV BCS | 30 | 1 | 2 | Credited to AMORE by DOE | BRECDA organized |
| 79 | 1 | ARMM | Tawi-Tawi | Tandubas | Himbah | Oct-03 | USAID | PV BCS | 30 | 1 | 2 | Credited to AMORE by DOE | BRECDA organized |
| 80 | 1 | ARMM | Tawi-Tawi | Tandubas | Kepeng | Oct-03 | USAID | PV BCS | 30 | 1 | 2 | Credited to AMORE by DOE | BRECDA organized |
| 81 | 1 | ARMM | Tawi-Tawi | Tandubas | Tapian Sokah | Oct-03 | USAID | PV BCS | 30 | 1 | 2 | Credited to AMORE by DOE | BRECDA organized |
| 82 | 2 | ARMM | Sulu | Tongkil | Bakkaan | Oct-03 | USAID | PV BCS | 30 | 1 | 2 | Credited to AMORE by DOE | BRECDA organized |
| 83 | 2 | ARMM | Sulu | Tongkil | Bangalaw | Oct-03 | USAID | PV BCS | 30 | 1 | 2 | Credited to AMORE by DOE | BRECDA organized |
| 84 | 2 | ARMM | Sulu | Tongkil | Danao | Oct-03 | USAID | PV BCS | 30 | 1 | 2 | Credited to AMORE by DOE | BRECDA organized |
| 85 | 2 | ARMM | Sulu | Tongkil | Kahikukuk | Oct-03 | USAID | PV BCS | 30 | 1 | 2 | Credited to AMORE by DOE | BRECDA organized |
| 86 | 2 | ARMM | Sulu | Tongkil | Luuk Poblacion | Oct-03 | USAID | PV BCS | 30 | 1 | 2 | Credited to AMORE by DOE | BRECDA organized |
| 87 | 2 | ARMM | Sulu | Tongkil | North Paarol | Oct-03 | USAID | PV BCS | 30 | 1 | 2 | Credited to AMORE by DOE | BRECDA organized |
| 88 | 2 | ARMM | Sulu | Tongkil | Sigumbal | Oct-03 | USAID | PV BCS | 30 | 1 | 2 | Credited to AMORE by DOE | BRECDA organized |
| 89 | 2 | ARMM | Sulu | Tongkil | South Paarol | Oct-03 | USAID | PV BCS | 30 | 1 | 2 | Credited to AMORE by DOE | BRECDA organized |
| 90 | 2 | ARMM | Sulu | Tongkil | Tabialan | Oct-03 | USAID | PV BCS | 30 | 1 | 2 | Credited to AMORE by DOE | BRECDA organized |
| 91 | 2 | ARMM | Sulu | Tongkil | Taenga Bakkaw | Oct-03 | USAID | PV BCS | 30 | 1 | 2 | Credited to AMORE by DOE | BRECDA organized |
| 92 | 2 | ARMM | Sulu | Tongkil | Tambun-bubu | Oct-03 | USAID | PV BCS | 30 | 1 | 2 | Credited to AMORE by DOE | BRECDA organized |
| 93 | 2 | ARMM | Sulu | Tongkil | Tattalan | Oct-03 | USAID | PV BCS | 30 | 1 | 2 | Credited to AMORE by DOE | BRECDA organized |
| 94 | 2 | ARMM | Sulu | Tongkil | Tinutungan | Oct-03 | USAID | PV BCS | 30 | 1 | 2 | Credited to AMORE by DOE | BRECDA organized |
| 95 | 3 | 11 | Davao City | Davao City | Magsaysay | Feb-04 | DLPC | PV BCS | 30 | 1 | 2 | Credited to AMORE by DOE | BRECDA organized |
| 96 | 3 | 11 | Davao City | Davao City | Saloy | Feb-04 | USAID | Micro-hydro* (canal & stairway from powerhouse to forebay tank only) | 30 | 0 | 0 (c/o UNDP) | Co-energized w/ UNDP & Green Empowerment | Existing people's organization (Saloy Farmers Multi-purpose Cooperative) managing AMORE projects |
| 97 | 2 | ARMM | Sulu | Siasi | Bakud | Apr-04 | Mirant | PV SHS | 30 | 1 | 2 | Credited to AMORE by DOE | BRECDA organized |
| 98 | 2 | ARMM | Sulu | Siasi | Duggo | Apr-04 | Mirant | PV SHS | 30 | 1 | 2 | Credited to AMORE by DOE | BRECDA organized |
| 99 | 2 | ARMM | Sulu | Siasi | Latung | Apr-04 | Mirant | PV SHS | 30 | 1 | 2 | Credited to AMORE by DOE | BRECDA organized |
| 100 | 2 | ARMM | Sulu | Siasi | Siolakan | Apr-04 | Mirant | PV SHS | 30 | 1 | 2 | Credited to AMORE by DOE | BRECDA organized |
| 101 | 2 | 9 | Zamboanga City | Zamboanga City | Manalipa | Apr-04 | Mirant | PV SHS | 30 | 1 | 2 | Credited to AMORE by DOE | BRECDA organized |
| 102 | 2 | 9 | Zamboanga City | Zamboanga City | Pangapuyan | Apr-04 | Mirant | PV SHS | 30 | 1 | 2 | Credited to AMORE by DOE | BRECDA organized |

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|-----|---|------|-------------------|----------------|------------------------|--------|--------|--------|----|---|---|--------------------------|------------------|
| 103 | 2 | 9 | Zamboanga City | Zamboanga City | Tigtabon | Apr-04 | Mirant | PV SHS | 30 | 1 | 2 | Credited to AMORE by DOE | BRECDA organized |
| 104 | 2 | 9 | Zamboanga City | Zamboanga City | Tumalutab | Apr-04 | Mirant | PV SHS | 30 | 1 | 2 | Credited to AMORE by DOE | BRECDA organized |
| 105 | 1 | ARMM | Tawi-Tawi | Languyan | Jakarta | May-04 | Mirant | PV BCS | 30 | 1 | 2 | Credited to AMORE by DOE | BRECDA organized |
| 106 | 1 | ARMM | Tawi-Tawi | Languyan | Kinikital | May-04 | Mirant | PV BCS | 30 | 1 | 2 | Credited to AMORE by DOE | BRECDA organized |
| 107 | 1 | ARMM | Tawi-Tawi | Languyan | Simalak | May-04 | Mirant | PV BCS | 30 | 1 | 2 | Credited to AMORE by DOE | BRECDA organized |
| 108 | 1 | ARMM | Tawi-Tawi | Languyan | Tubig Dakula | May-04 | Mirant | PV BCS | 30 | 1 | 2 | Credited to AMORE by DOE | BRECDA organized |
| 109 | 1 | ARMM | Tawi-Tawi | Languyan | Tumahubong | May-04 | Mirant | PV BCS | 30 | 1 | 2 | Credited to AMORE by DOE | BRECDA organized |
| 110 | 1 | ARMM | Tawi-Tawi | Sapa-Sapa | Lookan Bannaran | May-04 | Mirant | PV BCS | 30 | 1 | 2 | Credited to AMORE by DOE | BRECDA organized |
| 111 | 1 | ARMM | Tawi-Tawi | Sapa-Sapa | Tangngah | May-04 | Mirant | PV BCS | 30 | 1 | 2 | Credited to AMORE by DOE | BRECDA organized |
| 112 | 1 | ARMM | Tawi-Tawi | South Ubian | Bunai-Bunai Lookan | May-04 | Mirant | PV BCS | 30 | 1 | 2 | Credited to AMORE by DOE | BRECDA organized |
| 113 | 1 | ARMM | Tawi-Tawi | South Ubian | Bunai-Bunai Tong | May-04 | Mirant | PV BCS | 30 | 1 | 2 | Credited to AMORE by DOE | BRECDA organized |
| 114 | 1 | ARMM | Tawi-Tawi | South Ubian | Tubig Dayang Center | May-04 | Mirant | PV BCS | 30 | 1 | 2 | Credited to AMORE by DOE | BRECDA organized |
| 115 | 1 | ARMM | Tawi-Tawi | South Ubian | Tubig Dayang Riverside | May-04 | Mirant | PV BCS | 30 | 1 | 2 | Credited to AMORE by DOE | BRECDA organized |
| 116 | 1 | ARMM | Tawi-Tawi | South Ubian | Tubig Dayang West | May-04 | Mirant | PV BCS | 30 | 1 | 2 | Credited to AMORE by DOE | BRECDA organized |
| 117 | 1 | ARMM | Tawi-Tawi | Tandubas | Sallangan | May-04 | Mirant | PV BCS | 30 | 1 | 2 | Credited to AMORE by DOE | BRECDA organized |
| 118 | 2 | 9 | Zamboanga Sibugay | Alicia | Kapatagan | May-04 | Mirant | PV SHS | 30 | 1 | 2 | Credited to AMORE by DOE | BRECDA organized |
| 119 | 2 | 9 | Zamboanga Sibugay | Olutanga | Pulo Laum | May-04 | Mirant | PV SHS | 30 | 1 | 2 | Credited to AMORE by DOE | BRECDA organized |
| 120 | 2 | 9 | Zamboanga Sibugay | Payag | Fatima | May-04 | Mirant | PV SHS | 30 | 1 | 2 | Credited to AMORE by DOE | BRECDA organized |
| 121 | 2 | 9 | Zamboanga Sibugay | RT Lim | Remedios | May-04 | Mirant | PV SHS | 30 | 1 | 2 | Credited to AMORE by DOE | BRECDA organized |
| 122 | 2 | 9 | Zamboanga Sibugay | Titay | New Canaan | May-04 | Mirant | PV SHS | 30 | 1 | 2 | Credited to AMORE by DOE | BRECDA organized |
| 123 | 2 | 9 | Zamboanga Sibugay | Tungawan | Tigbucay | May-04 | Mirant | PV SHS | 30 | 1 | 2 | Credited to AMORE by DOE | BRECDA organized |
| 124 | 3 | ARMM | Maguindanao | Buluan | Kalian | May-04 | Mirant | PV SHS | 30 | 1 | 2 | Credited to AMORE by DOE | BRECDA organized |
| 125 | 3 | ARMM | Maguindanao | Buluan | Paitan | May-04 | Mirant | PV SHS | 30 | 1 | 2 | Credited to AMORE by DOE | BRECDA organized |
| 126 | 3 | ARMM | Maguindanao | Buluan | Talitay | May-04 | Mirant | PV SHS | 30 | 1 | 2 | Credited to AMORE by DOE | BRECDA organized |
| 127 | 3 | ARMM | Maguindanao | Buluan | Tumbao | May-04 | Mirant | PV SHS | 30 | 1 | 2 | Credited to AMORE by DOE | BRECDA organized |
| 128 | 3 | ARMM | Maguindanao | Datu Paglas | Mangadeg | May-04 | Mirant | PV SHS | 30 | 1 | 2 | Credited to AMORE by DOE | BRECDA organized |
| 129 | 3 | ARMM | Maguindanao | Datu Paglas | Mao | May-04 | Mirant | PV SHS | 30 | 1 | 2 | Credited to AMORE by DOE | BRECDA organized |
| 130 | 3 | ARMM | Maguindanao | Datu Paglas | Puya | May-04 | Mirant | PV SHS | 30 | 1 | 2 | Credited to AMORE by DOE | BRECDA organized |
| 131 | 3 | ARMM | Maguindanao | Mama sa Pano | Daladap | May-04 | Mirant | PV SHS | 30 | 1 | 2 | Credited to AMORE by DOE | BRECDA organized |
| 132 | 3 | ARMM | Maguindanao | SK Pendatun | Kulasi | May-04 | Mirant | PV SHS | 30 | 1 | 2 | Credited to AMORE by DOE | BRECDA organized |
| 133 | 3 | ARMM | Maguindanao | SK Pendatun | Panosolen | May-04 | Mirant | PV SHS | 30 | 1 | 2 | Credited to AMORE by DOE | BRECDA organized |
| 134 | 3 | 12 | Sultan Kudarat | Lutayan | Bayasong | May-04 | Mirant | PV SHS | 30 | 1 | 2 | Credited to AMORE by DOE | BRECDA organized |
| 135 | 3 | 12 | Sultan Kudarat | Lutayan | Maindang | May-04 | Mirant | PV SHS | 30 | 1 | 2 | Credited to AMORE by DOE | BRECDA organized |
| 136 | 3 | 12 | Sultan Kudarat | Lutayan | Mamali | May-04 | Mirant | PV SHS | 30 | 1 | 2 | Credited to AMORE by DOE | BRECDA organized |
| 137 | 2 | 9 | Zamboanga Sibugay | Buug | Agutayan | Jun-04 | Mirant | PV SHS | 30 | 1 | 2 | Credited to AMORE by DOE | BRECDA organized |
| 138 | 2 | 9 | Zamboanga Sibugay | Siyay | Magsaysay | Jun-04 | Mirant | PV SHS | 30 | 1 | 2 | Credited to AMORE by DOE | BRECDA organized |
| 139 | 3 | 11 | Davao City | Davao City | Dalag | Jun-04 | DLPC | PV BCS | 30 | 1 | 2 | Credited to AMORE by DOE | BRECDA organized |
| 140 | 3 | 11 | Davao del Norte | Panabo City | Katualan | Jun-04 | DLPC | PV BCS | 30 | 1 | 2 | Credited to AMORE by DOE | BRECDA organized |
| 141 | 3 | 11 | Davao del Sur | Sto. Tomas | Magwawa | Jul-04 | DLPC | PV BCS | 30 | 1 | 2 | Credited to AMORE by DOE | BRECDA organized |
| 142 | 3 | 11 | Davao City | Marilog | Bantol | Oct-04 | DLPC | PV BCS | 30 | 1 | 2 | Credited to AMORE by DOE | BRECDA organized |
| 143 | 1 | ARMM | Tawi-Tawi | Sapa-Sapa | Tonggusong Banaran | Dec-04 | Mirant | PV SHS | 20 | 0 | 0 | Credited to AMORE by DOE | BRECDA organized |
| 144 | 1 | ARMM | Tawi-Tawi | Sapa-Sapa | Toptop Banaran | Dec-04 | Mirant | PV SHS | 20 | 0 | 0 | Credited to AMORE by DOE | BRECDA organized |
| 145 | 1 | ARMM | Tawi-Tawi | Sitangkai | North Larap | Dec-04 | Mirant | PV SHS | 20 | 0 | 0 | Credited to AMORE by DOE | BRECDA organized |
| 146 | 1 | ARMM | Tawi-Tawi | Sitangkai | Sipangkot | Dec-04 | Mirant | PV SHS | 20 | 0 | 0 | Credited to AMORE by DOE | BRECDA organized |
| 147 | 1 | ARMM | Tawi-Tawi | Sitangkai | South Larap | Dec-04 | Mirant | PV SHS | 20 | 0 | 0 | Credited to AMORE by DOE | BRECDA organized |
| 148 | 1 | ARMM | Tawi-Tawi | Sitangkai | Ungus-Ungus | Dec-04 | Mirant | PV SHS | 20 | 0 | 0 | Credited to AMORE by DOE | BRECDA organized |
| 149 | 2 | 9 | Zamboanga Sibugay | Alicia | Lapaz | Dec-04 | Mirant | PV SHS | 20 | 0 | 0 | Credited to AMORE by DOE | BRECDA organized |
| 150 | 2 | 9 | Zamboanga Sibugay | Kabasilan | Shiolan | Dec-04 | Mirant | PV SHS | 20 | 0 | 0 | Credited to AMORE by DOE | BRECDA organized |
| 151 | 2 | 9 | Zamboanga Sibugay | Mabuhay | Sioton | Dec-04 | Mirant | PV SHS | 20 | 0 | 0 | Credited to AMORE by DOE | BRECDA organized |
| 152 | 2 | 9 | Zamboanga Sibugay | Siyay | Prinsesa Sumama | Dec-04 | Mirant | PV SHS | 20 | 0 | 0 | Credited to AMORE by DOE | BRECDA organized |
| 153 | 2 | 9 | Zamboanga Sibugay | Tungawan | Little Margos | Dec-04 | Mirant | PV SHS | 20 | 0 | 0 | Credited to AMORE by DOE | BRECDA organized |
| 154 | 2 | 9 | Zamboanga del Sur | Bayog | Dagum | Dec-04 | Mirant | PV SHS | 20 | 0 | 0 | Credited to AMORE by DOE | BRECDA organized |
| 155 | 2 | 9 | Zamboanga del Sur | Bayog | Deporehan | Dec-04 | Mirant | PV SHS | 20 | 0 | 0 | Credited to AMORE by DOE | BRECDA organized |
| 156 | 2 | 9 | Zamboanga del Sur | Bayog | Dimalinao | Dec-04 | Mirant | PV SHS | 20 | 0 | 0 | Credited to AMORE by DOE | BRECDA organized |
| 157 | 2 | 9 | Zamboanga del Sur | Kumalarang | Kitaang Dagat | Dec-04 | Mirant | PV SHS | 20 | 0 | 0 | Credited to AMORE by DOE | BRECDA organized |
| 158 | 2 | 9 | Zamboanga del Sur | Kumalarang | Limamawang | Dec-04 | Mirant | PV SHS | 20 | 0 | 0 | Credited to AMORE by DOE | BRECDA organized |

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|--------------|---|------|-------------------|---------------------------------|----------------------------------|--------|--------|-------------|--------------|------------|------------|---|--|
| 159 | 3 | ARMM | Maguindanao | Buluan | Daldagan | Dec-04 | Mirant | PV SHS | 20 | 0 | 0 | Credited to AMORE by DOE | BRECDA organized |
| 160 | 3 | ARMM | Maguindanao | Buluan | Lepak | Dec-04 | Mirant | PV SHS | 20 | 0 | 0 | Credited to AMORE by DOE | BRECDA organized |
| 161 | 3 | ARMM | Maguindanao | Buluan | Lower Dlag | Dec-04 | Mirant | PV SHS | 20 | 0 | 0 | Credited to AMORE by DOE | BRECDA organized |
| 162 | 3 | ARMM | Maguindanao | Buluan | Panapan | Dec-04 | Mirant | PV SHS | 20 | 0 | 0 | Credited to AMORE by DOE | BRECDA organized |
| 163 | 3 | ARMM | Maguindanao | Buluan | Upper Dlag | Dec-04 | Mirant | PV SHS | 20 | 0 | 0 | Credited to AMORE by DOE | BRECDA organized |
| 164 | 3 | ARMM | Maguindanao | Buluan | Tenok | Dec-04 | Mirant | PV SHS | 20 | 0 | 0 | Credited to AMORE by DOE | BRECDA organized |
| 165 | 3 | ARMM | Maguindanao | Datu Abdullah Sangki (Ampatuan) | Maranding | Dec-04 | Mirant | PV SHS | 20 | 0 | 0 | Credited to AMORE by DOE | BRECDA organized |
| 166 | 3 | ARMM | Maguindanao | Datu Abdullah Sangki (Ampatuan) | Tuka na Lugong | Dec-04 | Mirant | PV SHS | 20 | 0 | 0 | Credited to AMORE by DOE | BRECDA organized |
| 167 | 3 | ARMM | Maguindanao | Datu Paglas | Makat | Dec-04 | Mirant | PV SHS | 20 | 0 | 0 | Credited to AMORE by DOE | BRECDA organized |
| 168 | 3 | ARMM | Maguindanao | Datu Paglas | Palao sa Buto | Dec-04 | Mirant | PV SHS | 20 | 0 | 0 | Credited to AMORE by DOE | BRECDA organized |
| 169 | 3 | ARMM | Maguindanao | Datu Paglas | Sepaka | Dec-04 | Mirant | PV SHS | 20 | 0 | 0 | Credited to AMORE by DOE | BRECDA organized |
| 170 | 3 | ARMM | Maguindanao | Mamasapano | Bagumbong | Dec-04 | Mirant | PV SHS | 20 | 0 | 0 | Credited to AMORE by DOE | BRECDA organized |
| 171 | 3 | ARMM | Maguindanao | Mamasapano | Dungangen | Dec-04 | Mirant | PV SHS | 20 | 0 | 0 | Credited to AMORE by DOE | BRECDA organized |
| 172 | 3 | ARMM | Maguindanao | Mamasapano | Lusay | Dec-04 | Mirant | PV SHS | 20 | 0 | 0 | Credited to AMORE by DOE | BRECDA organized |
| 173 | 3 | ARMM | Maguindanao | Pagalungan | Kalbugan | Dec-04 | Mirant | PV SHS | 20 | 0 | 0 | Credited to AMORE by DOE | BRECDA organized |
| 174 | 3 | ARMM | Maguindanao | Pagalungan | Talitay | Dec-04 | Mirant | PV SHS | 20 | 0 | 0 | Credited to AMORE by DOE | BRECDA organized |
| 175 | 3 | ARMM | Maguindanao | Shariff Aguak | Kuloy | Dec-04 | Mirant | PV SHS | 20 | 0 | 0 | Credited to AMORE by DOE | BRECDA organized |
| 176 | 3 | ARMM | Maguindanao | Shariff Aguak | Lapok (Lepok) | Dec-04 | Mirant | PV SHS | 20 | 0 | 0 | Credited to AMORE by DOE | BRECDA organized |
| 177 | 3 | ARMM | Maguindanao | Shariff Aguak | Malingao | Dec-04 | Mirant | PV SHS | 20 | 0 | 0 | Credited to AMORE by DOE | BRECDA organized |
| 178 | 3 | ARMM | Maguindanao | SK Pendatun | Lumabao | Dec-04 | Mirant | PV SHS | 20 | 0 | 0 | Credited to AMORE by DOE | BRECDA organized |
| 179 | 3 | ARMM | Maguindanao | SK Pendatun | Midpandakan | Dec-04 | Mirant | PV SHS | 20 | 0 | 0 | Credited to AMORE by DOE | BRECDA organized |
| 180 | 3 | ARMM | Maguindanao | Sultan sa Barongis | Tugal | Dec-04 | Mirant | PV SHS | 20 | 0 | 0 | Credited to AMORE by DOE | BRECDA organized |
| 181 | 3 | ARMM | Maguindanao | Buluan | Kabuling | Jan-05 | Mirant | PV SHS | 20 | 0 | 0 | Credited to AMORE by DOE | BRECDA organized |
| 182 | 3 | ARMM | Maguindanao | Columbio | Polomolok | Jan-05 | Mirant | PV SHS | 20 | 0 | 0 | Credited to AMORE by DOE | BRECDA organized |
| 183 | 3 | ARMM | Maguindanao | Datu Paglas | Elbebe | Jan-05 | Mirant | PV SHS | 20 | 0 | 0 | Credited to AMORE by DOE | BRECDA organized |
| 184 | 3 | ARMM | Maguindanao | SK Pendatun | Kaladturan | Jan-05 | Mirant | PV SHS | 20 | 0 | 0 | Credited to AMORE by DOE | BRECDA organized |
| 185 | 3 | ARMM | Maguindanao | Shariff Aguak | Tapikan | Jan-05 | Mirant | PV SHS | 20 | 0 | 0 | Credited to AMORE by DOE | BRECDA organized |
| 186 | 3 | ARMM | Maguindanao | Buluan | Bulod | Jan-05 | Mirant | PV SHS | 20 | 0 | 0 | Credited to AMORE by DOE | BRECDA organized |
| 187 | 3 | 12 | Sultan Kudarat | Bagumbayan | Chua | Jan-05 | USAID | Micro-hydro | 45 | 1 | 25 | Credited to AMORE by DOE | BRECDA organized |
| 188 | 3 | 12 | Sultan Kudarat | Columbio | Bgy. Datal Blao (Sitio Lam-alis) | Jan-05 | USAID | Micro-hydro | 82 | 1 | 12 | Credited to AMORE by DOE | BRECDA organized |
| 189 | 2 | ARMM | Basilan | Maluso | Tamuk | Jan-05 | Mirant | PV SHS | 20 | 0 | 0 | Credited to AMORE by DOE | BRECDA organized |
| 190 | 2 | ARMM | Basilan | Pilas Island | Lubukan | Jan-05 | Mirant | PV SHS | 20 | 0 | 0 | Credited to AMORE by DOE | BRECDA organized |
| 191 | 2 | ARMM | Basilan | Pilas Island | Luuk Bungsod | Jan-05 | Mirant | PV SHS | 20 | 0 | 0 | Credited to AMORE by DOE | BRECDA organized |
| 192 | 2 | ARMM | Basilan | Pilas Island | Tausan | Jan-05 | Mirant | PV SHS | 20 | 0 | 0 | Credited to AMORE by DOE | BRECDA organized |
| 193 | 2 | 9 | Zamboanga del Sur | Lakewood | Dagum | Jan-05 | Mirant | PV SHS | 20 | 0 | 0 | Credited to AMORE by DOE | BRECDA organized |
| 194 | 2 | 9 | Zamboanga del Sur | Lakewood | Matalang | Jan-05 | Mirant | PV SHS | 20 | 0 | 0 | Credited to AMORE by DOE | BRECDA organized |
| 195 | 2 | ARMM | Sulu | Siasi | Duhul Tara | Feb-05 | Mirant | PV SHS | 20 | 0 | 0 | Credited to AMORE by DOE | BRECDA organized |
| 196 | 2 | ARMM | Sulu | Siasi | Ipil | Mar-05 | Mirant | PV SHS | 30 | 0 | 0 | Cleared for energization by DOE but not yet credited to AMORE | BRECDA organized |
| 197 | 2 | ARMM | Sulu | Siasi | North Manta | Mar-05 | Mirant | PV SHS | 30 | 0 | 0 | Cleared for energization by DOE but not yet credited to AMORE | BRECDA organized |
| 198 | 3 | ARMM | Maguindanao | Shariff Aguak | Angkayamat | Mar-05 | Mirant | PV SHS | 20 | 0 | 0 | Cleared for energization by DOE but not yet credited to AMORE | BRECDA organized |
| 199 | 3 | ARMM | Maguindanao | Shariff Aguak | Tina | Mar-05 | Mirant | PV SHS | 20 | 0 | 0 | Cleared for energization by DOE but not yet credited to AMORE | BRECDA organized |
| 200 | 3 | ARMM | Maguindanao | Sultan sa Barongis | Masulot | Mar-05 | Mirant | PV SHS | 20 | 0 | 0 | Cleared for energization by DOE but not yet credited to AMORE | BRECDA organized |
| TOTAL | | | | | | | | | 5,527 | 143 | 129 | | 199 BRECDAs organized (203 if w/ Parang, Sulu BRECDAs |

ANNEX C. Subcontractors Information Matrix

| Subcontractor | Organization Profile | Deliverables | Contact Person | Address | Contact Number | Effectivity date | Completion date |
|---|--|--|--|---|------------------------------|-------------------------|------------------------|
| Preferred Energy, Inc. (PEI) | It is a Philippine non-stock, non-profit corporation that focuses on supporting RE development in the Philippines. | PEI was tasked to conduct baseline surveys for 60 barangays, prepare the barangay electrification plan for these barangays, design a tariff/fee structure for BCS and SHS, conduct a feasibility study for an mHP in South Cotabato, pilot LED lighting for community application, conduct a pre-investment study for a wind project, develop IEC materials on the use of RE, and provide general technical, financial and policy advisory as needed by the Program. | Ms. Grace Yeneza (Managing Director) | 17 th Floor, Centerpoint Building, Ortigas Center, Pasig City | (02) 631-2745, (02) 635-9688 | March 15, 2002 | Sept. 30, 2004 |
| Maguindanaon Development Foundation, Inc. (MDFI) | It is a private, non-stock, non-profit social development institution that is committed to the social and economic development of the tri-people (Muslim, Lumad and Christian) and of poverty sectors in South Cotabato, Sultan Kudarat, Sarangani and General Santos City, Maguindanao and Cotabato Provinces. It is a Muslim | MDFI supported overall program implementation activities in Central Mindanao that includes community organizing, capacity-building, and fund leveraging. It worked in close collaboration with national and local government agencies, non-government organizations and the private sector as AMORE's partner in | Mr. Dausay Daulog (Executive Director) | MDFI Building, Odi Street, Pantua Village, Koronadal City, South Cotabato | (083) 228-3004 | July 1, 2002 | Dec. 31, 2004 |

| | | | | | | | |
|---|---|--|---|---|------------------------------|--------------------|--------------------|
| | organization, founded in 1987, with its headquarters in the City of Koronadal, South Cotabato. | Central Mindanao. | | | | | |
| Yamog Renewable Energy Development Group | It is an independent NGO that works primarily in Mindanao, Philippines. Their focus is to promote energy projects that integrate renewable energy, rainforest & watershed rehabilitation and local job creation through the stimulus of micro-enterprise. | YAMOG's activities under the AMORE Program were primarily in the Davao region. These activities included community preparation and organization, and productive-use or livelihood project screening, preparation, and development, with the goal of bringing fully prepared and viable projects to the table for funding and financing. YAMOG also supported in the crafting of technical designs of energy systems, particularly micro-hydro. | Mr. Nazario Cacayan (Executive Director) | Room 302, 3 rd Floor, GB CAM Building, corner Monteverde and Alvarez Streets, Davao City | (082) 227-4031 | July 1, 2002 | January 31, 2005 |
| Yakan Ministry Foundation, Inc. (YMFI) | It is a church-based non-profit, non-stock organization since 1983 that aims to uplift the living condition of the Yakan people in Basilan, notably the less fortunate and the down trodden, through education, empowerment and socio-economic development. | For the AMORE Program, YMFI supported project implementation activities in 25 Basilan barangays. These activities included community organizing, capacity-building, monitoring and evaluation, IEC and livelihood projects. | Mr. Madjarin T. Dakula (Executive Director) | 179 Quezon Blvd., Lamitan, Basilan | | September 19, 2002 | September 31, 2004 |
| WorldWater Corporation | It has been providing comprehensive rural | They were tasked to conduct water | John Herman (President and | Suite 403 Gabriel III Condominium, | (02) 631-2673, (02) 633-6436 | February 1, 2003 | July 3, 2003 |

| | | | | | | | |
|--|---|---|----------------------------|---|------------------------------|----------------|------------------|
| | development services by way of private public partnerships in the developing world in general and in the Philippines in particular for over 5 years. | resources assessment in select AMORE sites. Their activities included preliminary investigations of communities' existing water source and sanitation conditions, hydrogeologic potentials for future source development, and gathering of relevant social information to support identification of barangay water resources. | COO) | San Miguel Avenue, Ortigas Center, Pasig City | | | |
| Sustainable Rural Enterprise (SRE) | It is a registered Philippine NGO based in Kalibo, Aklan. SRE's mission is to enhance the efficiency, effectiveness, growth, and profitability of rural farming and fishing enterprises through the increased application of productive uses of renewable energy. | SRE developed a detailed feasibility assessment in setting up a commercial coconut coir processing facility and a mini coconut oil mill in Tawi-Tawi and Basilan. | Perla Manapol | Main Campus, Aklan State University, Banga, Aklan | (036) 267-6811 | March 1, 2003 | May 31, 2004 |
| International Resources Group – Philippines, Inc. (IRG-P) | It started its operation in year 2000. It is an affiliate of the US-based <i>International Resources Group (IRG)</i> , an international professional services firm that helps governments, the private sectors, communities and households manage critical resources to build a cleaner, safer and more prosperous world. | IRG-P's task was to develop and install the Monitoring and Evaluation (M&E) Framework through capacity building of the AMORE M&E team and management and field personnel as well as provide guidance in the implementation of the M&E Framework at the home office and project sites. A | Laurie Navarro (President) | Unit 2303 Medical Plaza Ortigas Condominium, 25 San Miguel Avenue, Ortigas Center, Pasig City | (02) 910-3008, (02) 638-5529 | March 17, 2003 | October 31, 2004 |

| | | | | | | | |
|---|---|--|--|--|----------------------|-----------------------------|------------------------------|
| | | <p>system audit was also established within the M&E framework to sample the project at certain intervals to give management a forest view of the status of the project. IRG also conducted a post project assessment of projects similar to AMORE that were completed during the last decade. From the data gathered, a sustainability framework model was drafted and adjusted to fit the conditions at the sites where the AMORE Program operates.</p> | | | | | |
| <p>Sibat ng Agham at Teknolohiya (SIBAT), Inc.</p> | <p>It has made some pioneering efforts in the past eight years in implementing community-based renewable energy systems, particularly in off-grid barangays of the country.</p> | <p>SIBAT was commissioned to conduct the feasibility studies for two micro-hydro sites, one in Tawi-Tawi and another in Zamboanga Sibugay.</p> | <p>Victoria Lopez (Executive Director)</p> | <p>4th and 5th Floor, No. 40 Matulungin Street, Barangay Central, Diliman, Quezon City</p> | <p>(02) 926-8971</p> | <p>April 28, 2003</p> | <p>June 15, 2004</p> |
| <p>Muslim Upliftment Foundation of Tawi-Tawi, Inc. (MUFTI)</p> | <p>It is a non-stock, non-profit, voluntary organization in Bongao, Tawi-Tawi. It envisions developing and building just, peaceful, democratic and progressive Muslim communities in Tawi-Tawi.</p> | <p>MUFTI supported the AMORE Program through the conduct of community development work and capability-building skills training in the identified priority areas in Tawi-Tawi.</p> | <p>Eddie M. Alih (Executive Director)</p> | <p>MUFTI Multi-Purpose Center, Pahut, Bongao, Tawi-Tawi</p> | | <p>January 26, 2004</p> | <p>December 31, 2004</p> |

AMORE Field Implementation Manual

1. About the Manual

In this manual, AMORE adopts the community development process that has been effective in implementing various rural development programs in the country. The community organizing process is considered a genuine bottom-up strategy since:

- ✓ It recognizes that individuals and small groups compose a community.
- ✓ It acknowledges the importance of leadership and emphasizes the maximum participation of direct beneficiaries in community development efforts.
- ✓ The formation of community associations, Barangay Renewable Energy Community Development Associations (BRECDAs), using the community organizing process helps rectify the powerlessness and passivity of rural cooperators.

In a nutshell, the process adopted in this manual includes the major stages of Social Preparation Phase, Organizational Building Phase, Capability Building Phase, Enterprise Development and Alliance Building, with Community Training providing the essential dynamics to the entire undertaking.

2. AMORE Project Components

This manual attempts to define the implementation procedure by putting into perspective the sequence, duration and timing of activities of the different AMORE project components.

1. Community Development (CD) - responsible for the overall community development process from provincial entry to project exit, staffed by community development specialists known as CDWs.
2. Renewable Energy (RE) - responsible for the design, implementation and maintenance of the renewable energy systems and composed of civil, electrical and mechanical engineers known as REs.
3. Community Training (CT) - responsible for the conduct and coordination of the necessary trainings required by the communities. Composed of community training specialists known as Training Team.
4. Enterprise & Livelihood (E&L) - responsible for the identification and implementation of livelihood activities essential to increase family and community incomes and staffed by community enterprise and livelihood specialists.
5. Information, Education & Communications (IEC) - responsible for the information dissemination and promotion of the AMORE project to the beneficiary communities. Staffed by promotion and PR specialists.
6. Monitoring & Evaluation (M&E) - responsible for monitoring the progress and effects of the AMORE community development process. Staffed by experienced CDs and REs.

*It also takes into consideration the implementation period of one (1) year per barangay, with the **Community Development** component becoming the basis for activities and taking the lead role for the other project components to adopt.*

3. **General Implementation Steps**

Meanwhile, the community development process undertaken by CD component follow the AMORE CD Process - general implementation steps.

1. LGU Entry Orientation – Presentation of the AMORE Program to the Provincial, Municipal and Barangay LGUs.
2. Community Entry and Mobilization – When the AMORE Project team starts its activities in the barangay level.
3. BRECDA Formation and Registration – When a barangay renewable energy association is organized and legally recognized.
4. BRECDA Strengthening – When the BRECDA members and officers are guided on the proper values, desirable attitudes and correct principles.
5. Enterprise and Livelihood Development – When the BRECDA is introduced to livelihood activities and business enterprises to boost family and community income.
6. Institutional Development – When the business activities of the different BRECDA need to cooperate, coordinate and eventually federate to improve income and financial stability.
7. Project Turnover – When AMORE ends its support to the beneficiary barangay and turns over the responsibilities to the respective associations, municipal and provincial LGUs.

These general steps lead to the program of regular activities for the Community Development Worker (CDW) over the entire year, as compared to those of the other components of the project which are supplemental to the community development activities.

4. **Process Flow Diagram of Specific Activities**

The specific activities of community development component as well as the other components of the project are presented in a Process Flow Diagram. The diagram outlines what activities are up next and which activities are conducted in parallel with the other project components. A description of the “process flow diagram” is given in the process flow summary.

5. **The AMORE Framework**

The framework is a tabular presentation of the project components and their respective specific activities. Parallel activities of the different components are presented on the same row which may mean coordination, support or even simultaneous activities. Again it may be important to emphasize that the CD component takes the lead role and activities of the other project components must be in support to the CD activities.

6. **Barangay Project Schedule**

An ideal implementation schedule for a given barangay over a period of one (1) year is presented. From this diagram, the field worker can determine the sequence, timing, duration and frequency of the activity, as well as the expected activity of other working groups. It then allows field and area supervisors to track the personnel and activity progress of one barangay or of many barangays started together and started at different periods. This then becomes a good tool for supervisors and managers to oversee activities in their area.

While the Barangay Project Schedule generally looks complicated at first glance, spending some time to study and understanding it would give the field worker guidance and clarity in the implementation. The rest of the manual is the detailed activity sheets for each component of the project.

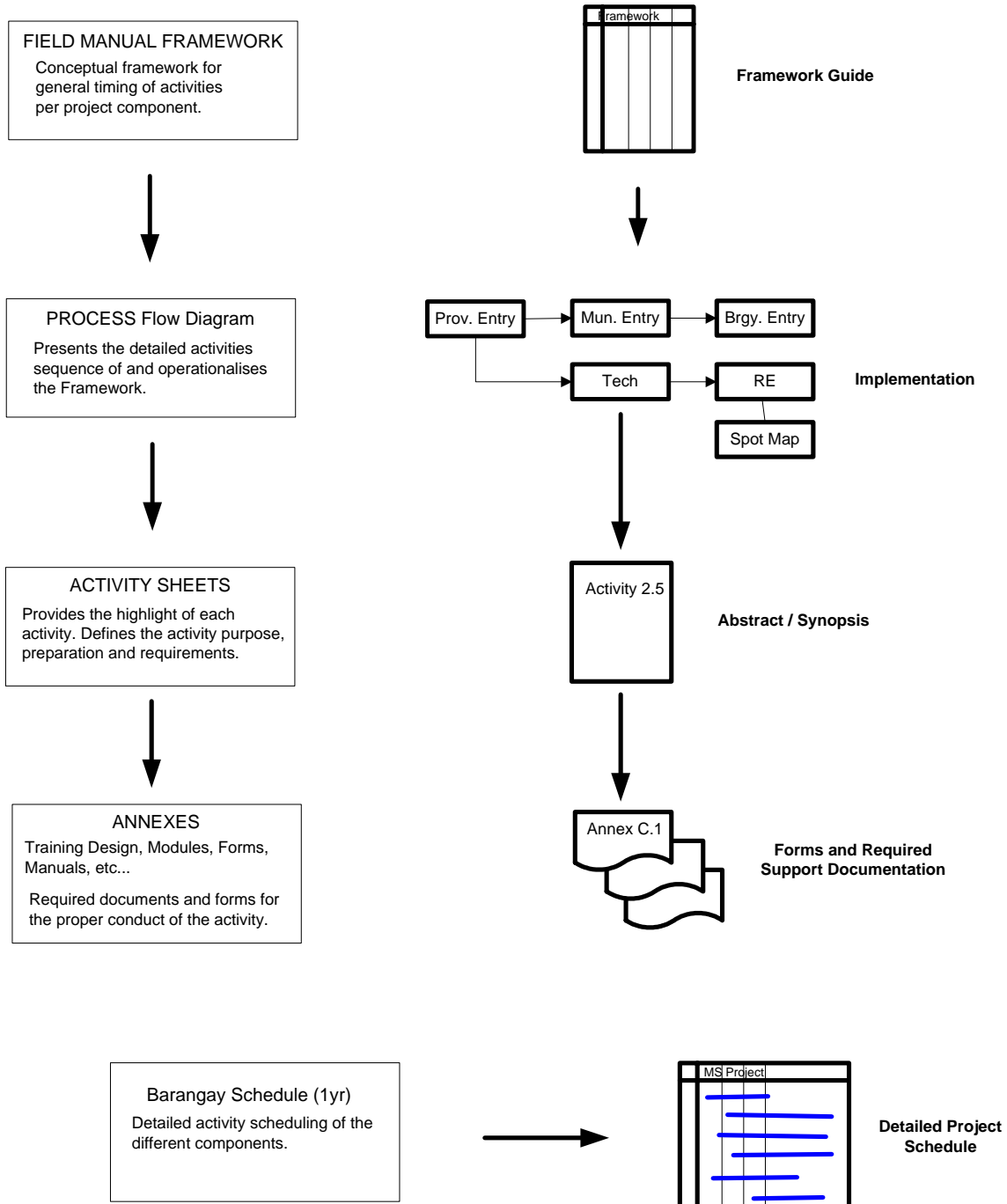
7. Activity Sheets

The activity sheets for each project component, specifically define the activity, responsible person, participants, duration, timing or predecessor activity, objectives, expected output, materials & documentation requirements for the complete and successful conduct of the activity.

8. Annexes and Attachments

Annexes and attachments include all the project field implementation forms, manuals, training modules and other documents required by the various field personnel. These are essential for the successful conduct of the activities.

Organization of the AMORE Field Manual



FRAMEWORK – Project Components and Activities

AMORE Field Manual

| Project Components | | | | | |
|--|------------------------------------|-----------------------------------|------------------------------------|---|------------------------------------|
| Community Development | Renewable Energy | Community Training | Enterprise / Livelihood | IEC | Monitoring & Evaluation |
| 0. AMORE Staff Hiring, Orientation & Deployment | | | | | |
| 1.1 LGU Entry / Orientation | | 3.1 AMORE Program Orientation | | | |
| 1.1.1 Provincial Orientation | 2.1 Provincial RE Presentation | 3.2 Seminar on the Conduct of PRA | | | |
| 1.1.2 Municipal Orientation | 2.2 Municipal RE Presentation | | | | |
| | 2.3 Site Survey | | | | |
| | 2.4 ID of Service Centers | | | | |
| 1.1.3 Barangay Orientation | 2.5 Barangay RE Presentation | | | 5.1 Posting of AMORE Program Posters | |
| | | | | 5.2 Distribution of AMORE Program Primer / Leaflets | |
| 1.2 Community Entry & Mobilization | | | | | |
| 1.2.1 Community Assembly | 2.6 SPOT Mapping w/GPS | | | 5.3 Leg working Activities | |
| 1.2.2 RE Clientele Meeting | 2.7 IDS Preparation | | | | |
| 1.2.3 Conduct of PRA | 2.8 Issuance of Installation Order | | 4.1 Existing Livelihood Assessment | | |
| | | | 4.2 Opportunity Assessment | | |

| | | | | | |
|--|---|---|--|--|------------------------------------|
| 1.3 BRECDA Formation and Registration | | | | | |
| 1.3.1 Organization of BRECDA | 2.9 RE Systems Training for Service Centers | | | 5.4 Production of Training Materials of Vernacular | |
| 1.3.2 Formulation of CBL | 2.10 Installation Briefing | | | | |
| | 2.11 Delivery of Materials | | | | |
| | 2.12 Installation | | | | |
| 1.3.3 Bank Account Opening | | | | | |
| 1.3.4 Installation of O&M Books of Accounts | 2.13 O&M Training | | | | |
| 1.3.5 BRECDA Registration | 2.14 Commissioning | 3.3 How to Conduct P-BAT Seminar (CDW) | 4.3 Capital Formation / Build-up | | |
| | | | | | 6.1 M1 CD and Technical Monitoring |
| 1.4 BRECDA Strengthening | | | | | |
| 1.4.1 Participatory BRECDA Assessment using Par-BAT | | | | | |
| 1.4.2 Leadership Training | 2.15 M1 Technical Visit | 3.4 Leadership Training | | | 6.2 M2 CD and Technical Monitoring |
| 1.4.3 Hands-on Guidance on BRECDA Management | | 3.5 Financial Management Training | | 5.5 Ground – Working Activities | |
| 1.5 Enterprise and Livelihood Development | | | | | |
| 1.5.1 Coordination for BRECDA Enterprise Development | | 3.6 Entrepreneurship Development Training | 4.4 Business Planning / Simple FS Preparation | 5.6 Leg working Activities re Enterprise / Livelihood related activities | |
| | | | 4.5 Preparation of Investment Proposal Preparation | | |
| | | | 4.6 Investment Forum | | |

| | | | | | |
|--|--------------------------------|-----------------------------------|--|--|------------------------------------|
| 1.5.2 Facilitation in the Conduct of Field Trip | 2.16 M2 Technical Visit | 3.7 Project Proposal Training | 4.7 Skills training | | 6.3 M3 CD and Technical Monitoring |
| 1.5.3 Facilitation in the Conduct of Cross-Visit | | 3.8 Livelihood Training for Women | | | |
| | | 3.9 Livelihood Training Coastal | 4.8 Cross visit | | 6.4 M4 CD and Technical Monitoring |
| | | 3.10 Livelihood Training Upland | | | |
| 1.6 Institutional Development | | | | | |
| 1.6.1 Affiliation and Accreditation to Federation, Union, MLGU | | | 4.9 implementation of livelihood project | | |
| 1.6.2 Organization of Municipal BRECDA Federation and Registration with DOLE BRW | | | | | |
| 1.7 Project Turnover & Exit | | | | | |
| 1.7.1 Coordinative activities with LGU / Formation of Municipal BRECDA Committee | | | 4.10 Training | 5.7 Leg working Activities reformation of Municipal BRECDA Committee | 6.5 M5 CD and Technical Monitoring |
| 1.7.2 Monthly Meetings of Municipal BRECDA Committee | | | 4.11 Monitoring and Evaluation | 5.8 Installation of Project Billboards | 6.6 M6 CD and Technical Monitoring |
| 1.7.3 Project Turnover | 2.17 M1 Technical Visit & Exit | | | | 6.7 Official Turn Over |

1.0 Local Government Unit (LGU) Entry/Orientation

1.1 Provincial Entry/Orientation

| | | |
|----------------------------|---|--|
| Required Activity AMORE | : | Courtesy Calls and Conduct of Orientation at Provincial Level |
| Objectives | : | <ul style="list-style-type: none">✓ Meet Provincial Government Officials✓ Orient Provincial Government representatives about the AMORE Program |
| Facilitator | : | AMORE CD and RE Supervisors |
| Attendees con- | : | Provincial Government Officials and cerned Heads of Offices |
| Expected Outputs | : | <ul style="list-style-type: none">○ Provincial Officials acquainted○ Provincial Government representatives oriented about AMORE○ Visit and familiarization of the area |

1.1.1 Conduct AMORE Orientation: by AMORE Community Development (CD) and Renewable Energy (RE) Supervisors

(Annex 1.0 : AMORE Orientation Program)

1.1.2 Presentation of AMORE Staff involved in the implementation of the Project in the sites covered by the Province

1.1.3 Solicitation of Provincial Commitment to the AMORE Program

1.2 Municipal Entry/Orientation

Required Activity : Courtesy Calls and Conduct of AMORE Orientation at Municipal Levels

Objectives :

- √ Meet the Municipal government officials
- √ Orient the Municipal Heads (Officials) about the AMORE program.
- √ Signed the Memorandum of Agreement.

Facilitator : AMORE CDW & RE Engineers

Attendees : Municipal Government officials, Barangay Chairman of Targeted Barangay of AMORE project.

Expected Outputs:

- Municipal officials acquainted.
- AMORE program Oriented.
- Memorandum of Agreement signed

1.2.1 Conduct AMORE orientation: by AMORE Community Development Workers (CDWs) and Renewable Energy (RE) Engineers.

1.2.2 Presentation of AMORE Staff involved in the implementation of the AMORE

1.2.3 Solicitation of Municipal Commitment by signing Memorandum of Agreement with the AMORE program.

1.3 Barangay Entry / Orientation

| | | |
|-------------------|----|---|
| Required Activity | : | Meeting – Conduct of AMORE Program |
| | - | Signing of Barangay Acceptance Agreement (BAA). |
| | - | Scheduling of RE Clientelle Meeting and Community Assembly |
| Objectives: | √ | Meet the Local Government Officials in the Barangay. |
| | √ | Orient Barangay Officials and Tao-Maas about the AMORE Program. |
| | √ | Formulate Selection scheme for 30 Clienteles. |
| Facilitator | : | AMORE CDW & REE |
| Attendees | : | Barangay Government Officials |
| Expected Output | : | |
| | 1. | AMORE Program Orientation |
| | 2. | Signing of BAA |

1.3.1 Conduct of AMORE Orientation

1.3.2 Establishment of Rapport.

1.3.3 Solicitation of Commitment AMORE program by signing BAA

2.0 Community Entry & Mobilization

2.1 Community Assembly (CA)

- Required Activity :
- Conduct of AMORE Orientation
 - Formation of ADHOC Committee
 - Distribution of Application Form
- Objectives :
- ✓ Meet the Community residents/clientelles
 - ✓ Conduct AMORE Program Orientation
 - ✓ Familiarize the Area
 - ✓ Initial Spot Mapping
- Facilitator : AMORE CDW & RE Engineers.
- Attendees : Community People/Applicant LGU
- Expected Output :
- Rapport Established
 - AMORE Program
 - ADHOC Committee formed
 - Application Forms distributed and filled up for 30 clienteles.

2.1.1 Conduct of AMORE Orientation

(Annex - - -)

2.1.2 Establishment of Rapport.

2.1.3 Conduct of Initial Spot Mapping (by ad-hoc)

(Annex - - -)

2.2 RE Clientele Meeting

| | | |
|-------------------|---|---|
| Required Activity | : | Meeting with BRECDA Members |
| Objectives | : | √ Collection of Application form |
| | | √ Election of Interim officers |
| | | √ Installation of Data Sheet / GPS |
| | | √ Identification of Final Location of the BCS |
| | | √ Finalization of List of 30 Members |
| Facilitator | : | CDW / REE |
| Attendees | : | 30 Clientele |
| Expected Output | : | |
| | | √ 30 Clientele officially member BRECDA |
| | | √ Elected Interim Officers. |
| | | √ Final Location of BCS |

2.2.1 Final Enlisting of 30 Clienteles

2.2.2 Finalization of Spot Mapping

2.2.3 Election of Officers and present Organizational Structure

2.2.4 Discuss the roles and Responsibilities of the officers

2.3 Conduct of Participatory Rural Appraisal

- Required Activity : 2 days Workshop (1-day participatory workshop, 1-day consolidation)
- Objectives :
- Identification/Prioritization/Ranking of problems and needs of the people in the community
 - Conduct household survey and household resource inventory
 - Identify service providers and agency services serving the community
- Facilitator : AMORE CDW
- Attendees : 30 BRECDA Clientele
- Expected Output :
- PRA RESULTS:
- ✓ Venn Diagramming Result
 - ✓ Service Mapping Result
 - ✓ Census Mapping Result
 - ✓ Pair-wise Ranking Result
 - ✓ Seasonal Calendar Result

2.3.1 *Conduct of Venn Diagramming, Service Mapping, Census Mapping, Pair Wise Ranking, Seasonal Calendar*

2.3.2 *Identify community service agencies using Venn Diagramming*

2.3.3 *Identify community service providers using Service Mapping*

2.3.4 *Conduct household income survey and household resource inventory using Census Mapping*

- 2.3.5 *Identify, Prioritize/Rank Problems and Needs of the community using Pair-wise Ranking*
- 2.3.6 Identify seasonal pattern of rainy and sunny months using seasonal calendar
- 2.3.7 *Conduct PRA Validation with the community*

3.0 BRECDA Formation & Registration

3.1 Organization of BRECDA

Required Activity: Organizational Meeting/Organization of BRECDA

Objectives :

- ✓ Conduct Organizational Meeting
- ✓ Organize Barangay Renewable Energy and Community Development Association (BRECDA)

Facilitator : CDW

Attendees : 30 Clientele Members

Expected Output:

- Officers and members oriented clearly with official functions and roles
- BRECDA organized through an official election

- 3.1 Conduct orientation on BRECDA officers and members' roles and official functions before conduct of organizational meeting
- 3.2 Conduct formal organizational meeting through official Election of officers

(Annex ____'Minutes of Organizational Meeting with election official results)

3.2 Formulation of Constitution and By-Laws

- Required Activity: Formulation of Constitution and By-laws Through a Meeting/Workshop Sessions
- Objectives :
✓ Develop Constitution & By laws of BRECDA
- Attendees : BRECDA Board of Directors and Officers,CDW
- Expected Output:
- Draft copy of Constitution & By laws of BRECDA
 - CBL
 - Ratification of CBL by the G.A.

3.2.1 Conduct Sessions on CBL Formulation with BOD

3.2.2 Discussion on applicable policies to be included in CBL

3.2.3 Presentation of CBL to General Assembly (G.A.)

3.2.4 Ratification of CBL by the General Assembly

3.3 Bank Account Opening

Required Activity: Assist BRECDA in opening Bank Account

Objectives :

- ✓ To open bank account for BRECDA with a particular local bank designated by the association as the official depository bank of the association

Facilitator : CDW

Attendees : Chairman, Treasurer, / Member.

Expected Output:

- ✓ BRECDA Bank Account opened
- ✓ Certificate of Bank Deposit acquired

- 3.3.1 Assist BRECDA officers in complying bank requirements in opening bank account
- 3.3.2 Facilitate passing of Board Resolution Authorizing the Chairman and Treasurer as official bank signatory
- 3.3.3 Guide BRECDA officers to the designated bank
- 3.3.4 Request certificate of bank deposit and keep evidence of deposit

3.4 Installation of O & M Books of Account

Required Activity: Install Operation and Maintenance (O & M) Books of Accounts thru hands-on guidance

Objectives :

- ✓ Install O & M Books of Accounts
- ✓ Provide hands – on guidance on how to use simple ledgers and journal for O & M fund recording

Facilitator : CDW

Attendees : BCS Operators, BRECDA Treasurer and Secretary

Expected Output:

- Installed journal and ledger for the PV System operator and Treasurer
- PV System Operators and Treasurer able to use the O & M financial recording books

3.4.1 Installed journal and ledger for the PV System operator and Treasurer

3.4.2 PV System Operators and Treasurer able to use the O & M financial recording books

3.5 BRECDA Registration

Required Activity : Registration of BRECDA with DOLE-ARMM

Objectives :
✓ Register BRECDA with DOLE-ARMM

Facilitator : CDW

Attendees :

Expected Output:

- ✓ Registration requirements filled up and completed
- ✓ Registration documents submitted, received and acknowledged by DOLE
- ✓ Pre-registration activities of DOLE, i.e., Site visit and validation, DOLE seminar, Facilitated by concerned CDW

3.5.1 Requirements for Registration:

3.5.1.a Letter of Intent

3.5.1.b Spot Map

3.5.1.c Community Profile

- 3.5.1.4 Minutes of Organizational Meeting;
- 3.5.1.5 List of Officers and Members
- 3.5.1.6 Minutes of the Adoption and Ratification of
the By – Laws;
- 3.5.1.7 Constitution of By Laws;
- 3.5.1.8 Articles of Incorporation;
- 3.5.1.9 Registration Fee

4.0 BRECDA Strengthening

4.1 Participatory BRECDA Assessment

Required Activity : Assessment of BRECDA using Participatory BRECDA Assessment Tool (Par-BAT)

Objectives :
✓ To assess BRECDA periodically (at least monthly) using Par-BAT

Facilitator : CDW

Expected Output :
○ BRECDA levels of performance periodically assessed

4.1.1 Assess BRECDA using Participatory BRECDA Assessment Tool

4.1.2 To assess BRECDA Skills

4.1.3 To strengthen activities for BRECDA

4.2 Leadership Training-BRECDA

Required Activity : 2 days Seminar / Workshop on Basic Leadership for BRECDA (community-Level training)

Objectives :

- To impart knowledge and transfer skills on leadership to BRECDA Officers

Facilitator : CDW

Attendees : BRECDA Officers

Expected Output :

4.3 Hands-on Guidance BRECDA management

Required Activity: Hands-on guidance to BRECDA Officers

Objectives : ✓ Internalization of BRECDA Organizational Functions

✓ Strengthening of Committees and key positions

Facilitator : CDW

Attendees : 30 Clientele Members

Expected Output:

- √ Committees normally functioning
- √ Functions of Officers & Members internalized

5.0 Enterprise/Livelihood/IGP Development & Registration

5.1 Coordination for BRECDA Enterprise Development

Required Activity: Coordination with the Enterprise/Livelihood/IGP Coordinator for the development of BRECDA enterprises and livelihood

Objectives :

Attendees :

Expected Output:

√ BRECDA enterprises formed

√ Livelihood activities developed

5.2 Facilitation in the Conduct of Field Trip

Required Activity: Facilitate conduct of Field Trip

Objectives :

- To send selected BRECDA officers and members for a field trip to places in Mindanao having successful enterprise and livelihood activities

Facilitator : CDW

Attendees : Select BRECDA Officers

Expected Output:

√

5.3 Facilitation in the Conduct of Cross Visit

Required Activity: Facilitate Conduct of Cross Visit

Objectives :

√ To send selected officers and members of BRECDA to other project sites having Successful renewable energy projects

Facilitator : CDW

Attendees :

Expected Output:

√ Cross visit conducted

6.0 Institutional Development

6.1 Affiliation and Accreditation to Local Government Unit, NGO Federation and Union

Required Activity: Affiliate and accredit BRECDA with Local Government Unit, NGO Federations and Union

Objectives : √

Facilitator: CDW

Attendees:

Expected Output: √ BRECDA affiliated and accredited with Local Government Unit, NGO Federations and Union

7.0 Phase-out and Turn-over

7.1 Coordinative Activities with Municipal Local Government Unit (MLGU) re Creation of Municipal BRECDA Committe

Required Activity: MLGU Coordinated for the formation of Municipal BRECDA Committee

Objectives :

- Coordinate MLGU for the formation of BRECDA
- Facilitate approval of legislative requirements
- Facilitate creation of the Municipal BRECDA Committee

Facilitator : Area Manager, Supervisors

Expected Output: SB Resolution creating Municipal BRECDA Committee
√ Executive Order by the Local Chief Executive creating the Municipal BRECDA Committee and officers and members

7.2 Monthly Meetings of Municipal BRECDA Committee

- Required Activity : Regular Monthly meetings of BRECDA
- Objectives :
 - o Facilitate regular monthly meetings (also special) of BRECDA - until day of turn-over
- Facilitator : Area Manager, CD and/or RE Supervisor
- Attendees : Members of Municipal BRECDA Committee, Area Manager, CD and/or RE Supervisor
- Expected Output :

7.3 Official Turn-over of BRECDA to LGU/Municipal BRECDA Committee

Required Activity : Turn-over BRECDA to concerned LGU/Municipal BRECDA Committee

- Objectives :
- √
 - √
 - √

Facilitator : AMORE Area Manager, CD & RE Supervisors, CDW

Attendees :

Expected Outputs :

3.0 Renewable Energy (RE) Component

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3.1 Provincial RE Presentation

| | | |
|----------------------|---|--|
| Required Activity | : | Provincial Meeting |
| Responsibility | : | RE Engineer, CDW |
| Duration | : | 3 days, inclusive of prep, travel & report |
| Timing / Predecessor | : | After <u>Staff Orientation Seminar</u> |
| Participants | : | Governor, SP Members, PPDO |

| | | |
|------------|---|--|
| Objectives | : | <ol style="list-style-type: none"> 1. To present the AMORE Renewable Energy technologies. 2. To present the RE component for implementation. 3. To discuss RE system sustainability and environmental plan. 4. To discuss RE exit procedure. 5. To provide technical support during the open forum. 6. To provide the Provincial LGU a copy of the AMORE Field Manual. |
|------------|---|--|

| | | |
|-----------------|---|---|
| Expected Output | : | <ol style="list-style-type: none"> 1. AMORE Renewable Energy technologies presented. 2. RE component for implementation presented. 3. RE system sustainability and environmental plan discussed. 4. RE exit procedure discussed. 5. Technical support during the open forum provided. 6. AMORE Field Manual copy to Provincial LGU. |
|-----------------|---|---|

| | | |
|----------|---|--|
| Activity | : | <ol style="list-style-type: none"> 1. Present the AMORE Renewable Energy technologies. 2. Present the RE component for implementation. 3. Discuss RE system sustainability and environmental plan. 4. Discuss the RE exit procedure. 5. Provide technical support during the open forum. 6. Provide the Provincial LGU a copy of the AMORE Field Manual. |
|----------|---|--|

| | | |
|--------------------------------|---|--|
| Materials / Documents Required | : | <ol style="list-style-type: none"> 1. PowerPoint presentation on AMORE RE Technologiesⁱ 2. PP presentation on the RE component for implementation.ⁱⁱ 3. PP presentation on the RE system sustainability and environmental plan.ⁱⁱⁱ 4. PP presentation on the RE Sustainability and exit plan.^{iv} 5. AMORE Implementation Manual^v 6. Document Receiving Form^{vi} |
|--------------------------------|---|--|

3.2 Municipal RE Presentation

| | | |
|----------------------|---|--|
| Required Activity | : | Municipal Meeting |
| Responsibility | : | RE Engineer, CDW |
| Duration | : | 3 days, inclusive of prep, travel & report |
| Timing / Predecessor | : | After <u>Staff Orientation Seminar</u> |
| Participants | : | Mayor, SP Members, MPDO |

| | | |
|------------|---|---|
| Objectives | : | <ol style="list-style-type: none"> 1. To present the AMORE Renewable Energy technologies. 2. To present the RE component for implementation. 3. To discuss RE system sustainability and environmental plan. 4. To discuss RE exit procedure. 5. To provide technical support during the open forum. 6. To provide the Municipal LGU a copy of the AMORE Field Manual. |
|------------|---|---|

| | | |
|-----------------|---|--|
| Expected Output | : | <ol style="list-style-type: none"> 1. AMORE Renewable Energy technologies presented. 2. RE component for implementation presented. 3. RE system sustainability and environmental plan discussed. 4. RE exit procedure discussed. 5. Technical support during the open forum provided. 6. AMORE Field Manual copy to Municipal LGU. |
|-----------------|---|--|

| | | |
|----------|---|--|
| Activity | : | <ol style="list-style-type: none"> 1. Present the AMORE Renewable Energy technologies. 2. Present the RE component for implementation. 3. Discuss RE system sustainability and environmental plan. 4. Discuss the RE exit procedure. 5. Provide technical support during the open forum. 6. Provide the Provincial LGU a copy of the AMORE Field Manual. |
|----------|---|--|

| | | |
|--------------------------------|---|--|
| Materials / Documents Required | : | <ol style="list-style-type: none"> 1. PowerPoint presentation on AMORE RE Technologies^{vii} 2. PP presentation on the RE component for implementation.^{viii} 3. PP presentation on the RE system sustainability and environmental plan.^{ix} 4. PP presentation on the RE Sustainability and exit plan.^x 5. AMORE Implementation Manual^{xi} 6. Document Receiving Form^{xii} |
|--------------------------------|---|--|

3.3 Site Survey

| | | |
|-----------------------------|---|--|
| Required Activity | : | Barangay Visit |
| Responsibility | : | RE Engineer |
| Duration | : | one (1) week, inclusive of preparation and report |
| Timing / Predecessor | : | After <u>Municipal Entry</u> |
| Participants | : | Brgy. LGU Officials |

| | | |
|-------------------|---|---|
| Objectives | : | <ol style="list-style-type: none">1. Assess the renewable energy potential of the barangay.2. Determine the electrification status and plans for electrification.3. Determine current lighting energy expenditures. |
|-------------------|---|---|

| | | |
|------------------------|---|--|
| Expected Output | : | <ol style="list-style-type: none">1. Evaluation of the RE potential of the barangay.2. Recommend suitable RE systems. |
|------------------------|---|--|

| | | |
|-----------------|---|---|
| Activity | : | <ol style="list-style-type: none">1. Courtesy call barangay LGU and discuss conduct the actual of the activity.2. Request for possible manpower support.3. Conduct 20 random household surveys.4. Evaluate survey data.5. Summary report. |
|-----------------|---|---|

| | | |
|---------------------------------------|---|---|
| Materials / Documents Required | : | <ol style="list-style-type: none">1. Site Survey Form^{xiii} Camera |
|---------------------------------------|---|---|

3.4 Identification of Service Centers

| | | |
|-----------------------------|---|--|
| Required Activity | : | Municipal Visit |
| Responsibility | : | RE Engineer |
| Duration | : | one (1) week, inclusive of preparation and report |
| Timing / Predecessor | : | After <u>Municipal Entry</u> |
| Participants | : | Commercial Service Personnel and Service Centers |

| | | |
|-------------------|---|---|
| Objectives | : | <ol style="list-style-type: none"> 1. Identify municipal level service personnel and service centers. 2. Discuss the AMORE project; <ul style="list-style-type: none"> ▪ What is AMORE ▪ Sustainability Plan ▪ RE Supply and Servicing Requirements ▪ AMORE Support to Accredited Service Personnel and Service Center ▪ Roles and Responsibilities of AMORE and Accredited Service Centers 3. Request for support and commitment. |
|-------------------|---|---|

| | | |
|---------------------------------------|---|---|
| Expected Output | : | <ol style="list-style-type: none"> 1. Municipal service personnel and service centers identified. 2. AMORE Project explained to service personnel and service center. 3. AMORE Service Manual issued. |
| Activity | : | <ol style="list-style-type: none"> 1. Survey electrical, electronic and battery service personnel and suppliers. 2. Fill-up service personnel/center form. 3. Explain the AMORE project as outlined in the AMORE Service Manual. 4. Evaluate survey data. 5. Summary report. |
| Materials / Documents Required | : | <ol style="list-style-type: none"> 1. Service Personnel/Service Center Form^{xiv} 2. |

3.5 Barangay RE Presentation

| | | |
|-----------------------------|---|--|
| Required Activity | : | Barangay Meeting |
| Responsibility | : | RE Engineer, CDW |
| Duration | : | 3 days, inclusive of prep, travel & report |
| Timing / Predecessor | : | After <u>Staff Orientation Seminar</u> |
| Participants | : | Brgy. Chairman, SB Members |

| | | |
|-------------------|---|--|
| Objectives | : | <ol style="list-style-type: none"> 1. To present the AMORE Renewable Energy technologies. 2. To present the RE component for implementation. 3. To discuss RE system sustainability and environmental plan. 4. To discuss RE exit procedure. 5. To provide technical support during the open forum. 6. To provide the Barangay LGU a copy of the AMORE Field Manual. |
|-------------------|---|--|

| | | |
|------------------------|---|--|
| Expected Output | : | <ol style="list-style-type: none"> 1. AMORE Renewable Energy technologies presented. 2. RE component for implementation presented. 3. RE system sustainability and environmental plan discussed. 4. RE exit procedure discussed. 5. Technical support during the open forum provided. 6. AMORE Field Manual copy to Barangay LGU. |
| Activity | : | <ol style="list-style-type: none"> 1. Present the AMORE Renewable Energy technologies. 2. Present the RE component for implementation. 3. Discuss RE system sustainability and environmental plan. 4. Discuss the RE exit procedure. 5. Provide technical support during the open forum. 6. Provide the Barangay LGU a copy of the AMORE Field Manual. |

| | | |
|---------------------------------------|---|--|
| Materials / Documents Required | : | <ol style="list-style-type: none"> 1. PowerPoint presentation on AMORE RE Technologies^{xv} 2. PP presentation on the RE component for implementation.^{xvi} 3. PP presentation on the RE system sustainability and environmental plan.^{xvii} 4. PP presentation on the RE Sustainability and exit plan.^{xviii} 5. AMORE Implementation Manual^{xix} 6. Document Receiving Form^{xx} |
|---------------------------------------|---|--|

3.6 Barangay Spot Mapping

| | | |
|-----------------------------|---|--|
| Required Activity | : | Barangay Visit |
| Responsibility | : | RE Engineer |
| Duration | : | 3 days, inclusive of preparation and report |
| Timing / Predecessor | : | After <u>Community Assembly</u> , during <u>RE Clientele Meeting</u> |
| Participants | : | Brgy. LGU Officials |

| | | |
|-------------------|---|---|
| Objectives | : | <ol style="list-style-type: none"> 1. Plot of the following, <ol style="list-style-type: none"> a. Main Road b. Houses c. School d. Mosque e. Barangay Hall f. Barangay Health Center g. Volleyball / Basketball Court |
|-------------------|---|---|

| | | |
|------------------------|---|---|
| Expected Output | : | <ol style="list-style-type: none"> 1. Barangay Spot Map indicating the Objective requirements. 2. Spot Map Summary Report |
| Activity | : | <ol style="list-style-type: none"> 1. Courtesy call barangay LGU and BRECDA to discuss the conduct of the spot mapping activity. 2. Request for possible manpower support. 3. Conduct SPOT mapping together with barangay LGU/BRECDA representative. 4. Spot Map Summary Report |

| | | |
|---------------------------------------|---|--|
| Materials / Documents Required | : | <ol style="list-style-type: none"> 1. GPS device (Etrex Vista) with spare batteries. 2. Spot Map |
|---------------------------------------|---|--|

3.7 Installation Data Sheet (IDS) Preparation

| | | |
|-----------------------------|---|---|
| Required Activity | : | Barangay Visit |
| Responsibility | : | RE Engineer |
| Duration | : | 3 days, inclusive of preparation and report |
| Timing / Predecessor | : | After <u>Community Assembly</u> , during <u>RE Clientele Meeting and Spot Mapping</u> |
| Participants | : | Brgy. LGU Officials |

| | | |
|-------------------|---|---|
| Objectives | : | <ol style="list-style-type: none"> 1. To prepare the installation data sheets for the following systems, <ol style="list-style-type: none"> a. 4 x Battery Charging Station (BCS) b. 2 x Streetlight (SL) c. 1 x Solar Home System (SHS) d. 20 x Household Battery System (HBS) |
|-------------------|---|---|

| | | |
|------------------------|---|--|
| Expected Output | : | <ol style="list-style-type: none"> 1. Installation Data Sheets as required by the activity objectives. 2. IDS Summary Report Form. |
|------------------------|---|--|

| | | |
|-----------------|---|--|
| Activity | : | <ol style="list-style-type: none"> 1. Courtesy call barangay LGU and BRECDA to discuss the conduct of the Installation Data Sheet. 2. Request for possible manpower support. 3. Conduct IDS together with barangay LGU/BRECDA representative. 4. IDS summary report. |
|-----------------|---|--|

| | | |
|---------------------------------------|---|---|
| Materials / Documents Required | : | <ol style="list-style-type: none"> 1. List of Community RE Applicants. 2. IDS Forms (3xBCS, 2xSL, 1xSHS & 20xHBS)^{xxi} 3. |
|---------------------------------------|---|---|

3.8 Issuance of Installation Order

| | | |
|-----------------------------|---|--|
| Required Activity | : | Document Preparation and Submission |
| Responsibility | : | RE Engineer |
| Duration | : | 5 days, inclusive of preparation and mailing |
| Timing / Predecessor | : | After <u>IDS Preparation</u> , during <u>PRA</u> of CDW. |
| Participants | : | DCOP / COP |

| | | |
|-------------------|---|--|
| Objectives | : | <ol style="list-style-type: none"> 1. To prepare the Installation Orders for the following systems, <ol style="list-style-type: none"> a. 3 x Battery Charging Station (BCS) b. 2 x Streetlight (SL) c. 1 x Solar Home System (SHS) d. 20 x Household Battery System (HBS) |
|-------------------|---|--|

| | | |
|------------------------|---|---|
| Expected Output | : | <ol style="list-style-type: none"> 1. Installation Orders signed by COP. |
|------------------------|---|---|

| | | |
|-----------------|---|--|
| Activity | : | <ol style="list-style-type: none"> 1. Fill-out Installation Order form. 2. Forward to Area Office. 3. For approval and signature by the COP |
|-----------------|---|--|

| | | |
|---------------------------------------|---|--|
| Materials / Documents Required | : | <ol style="list-style-type: none"> 1. Complete IDS Forms (3xBCS, 2xSL, 1xSHS & 20xHBS) 2. 3. Installation Order Form^{xxii} |
|---------------------------------------|---|--|

3.9 RE Systems Training

| | | |
|-----------------------------|---|--|
| Required Activity | : | Training |
| Responsibility | : | RE Engineer |
| Duration | : | 5 days, inclusive of preparation and report |
| Timing / Predecessor | : | After <u>Issuance of Installation Order</u> . |
| Participants | : | Barangay Service Personnel (2 trainees maximum per barangay) Municipal Service Personnel, Service Centers (3 trainees maximum per municipality) AMORE Renewable Energy Engineers (new) |

| | | |
|-----------------|---|---|
| Activity | : | <ol style="list-style-type: none"> 1. Preparation for training. 2. Conduct of RE – PV Systems Training. 3. PV Systems Training report. |
|-----------------|---|---|

| | | |
|-------------------|---|---|
| Objectives | : | <ol style="list-style-type: none"> 1. Conduct RE systems training for, <ol style="list-style-type: none"> a. Barangay operators and technicians. b. Municipal service personnel and service centers. c. Renewable Energy Engineers |
|-------------------|---|---|

| | | |
|---------------------------------------|---|--|
| Materials / Documents Required | : | <ol style="list-style-type: none"> 1. PV Systems Training Manual^{xxiii} 2. Attendance 3. Photo Documentation 4. PV Systems Training Report Form |
|---------------------------------------|---|--|

| | | |
|-------------------------|---|--|
| Expected Output | : | <ol style="list-style-type: none"> 1. Training conducted for, <ol style="list-style-type: none"> a. Barangay operators and technicians. b. Municipal service personnel and service centers. c. Renewable Energy Engineers |
| The Winrock Team | | |

3.10 Installation Briefing

| | | |
|-----------------------------|---|---|
| Required Activity | : | Meeting |
| Responsibility | : | RE Engineer |
| Duration | : | 2 days, inclusive of preparation and report |
| Timing / Predecessor | : | After the conduct <u>PV Systems Training</u> . |
| Participants | : | <ol style="list-style-type: none"> 1. Barangay Service Personnel (2 trainees maximum per barangay) 2. Municipal Service Personnel, Service Centers (3 trainees maximum per municipality) 3. AMORE Renewable Energy Engineers 4. Installation Contractor |

| | | |
|-------------------|---|---|
| Objectives | : | <ol style="list-style-type: none"> 1. To discuss the delivery, installation and commissioning issues, <ol style="list-style-type: none"> a. Schedule b. Procedure c. Standards d. Forms |
|-------------------|---|---|

| | | |
|------------------------|---|--|
| Expected Output | : | <ol style="list-style-type: none"> 1. Delivery, installation and commissioning issues discussed. <ol style="list-style-type: none"> a. Schedule b. Procedure c. Standards d. Forms |
|------------------------|---|--|

| | | |
|-----------------|---|---|
| Activity | : | <ol style="list-style-type: none"> 1. Preparation of required documents and forms. 2. Conduct of meeting. 3. Open forum. 4. Installation Briefing report. |
|-----------------|---|---|

| | | |
|---------------------------------------|---|--|
| Materials / Documents Required | : | <ol style="list-style-type: none"> 1. Delivery, Installation and Commissioning Manual (schedule, procedure, standards, forms)^{xxiv} 2. Attendance 3. |
|---------------------------------------|---|--|

3.11 Delivery of Materials

| | | |
|-----------------------------|---|---|
| Required Activity | : | Coordination |
| Responsibility | : | RE Engineer |
| Duration | : | 30 days (intermittent) or depending on delivery schedule of Supply Contractor |
| Timing / Predecessor | : | After <u>Installation Briefing</u> . |
| Participants | : | Supply Contractor AMORE Sub-Contractor |

| | | |
|-------------------|---|--|
| Objectives | : | <ol style="list-style-type: none">1. To discuss delivery schedule.2. To coordinate with recipient barangay.3. To secure and properly materials.4. To prepare distribution schedule. |
|-------------------|---|--|

| | | |
|------------------------|---|---|
| Expected Output | : | <ol style="list-style-type: none">1. Delivery schedule discussed.2. Recipient barangay informed and ready.3. Materials secured and properly stored.4. Distribution schedule ready. |
|------------------------|---|---|

| | | |
|-----------------|---|---|
| Activity | : | <ol style="list-style-type: none">1. Regularly discuss delivery schedule with supply contractor and AMORE sub-contractor.2. Coordinate delivery schedule and requirements with recipient barangays.3. Ensure the materials are secure and properly stored.4. Schedule the distribution of materials. |
|-----------------|---|---|

| | | |
|---------------------------------------|---|---|
| Materials / Documents Required | : | <ol style="list-style-type: none">1. Updated Delivery Schedule2. Copy of Delivery Receipt3. Copy of Barangay Recipients |
|---------------------------------------|---|---|

3.12 Installation

| | | |
|-----------------------------|---|---|
| Required Activity | : | Barangay Visit |
| Responsibility | : | RE Engineer / Installation Contractor |
| Duration | : | 15 days |
| Timing / Predecessor | : | After <u>Installation Briefing</u> |
| Participants | : | Installation Contractor, BRECDA Members |

| | | |
|-------------------|---|---|
| Objectives | : | To install the following RE systems in the barangay, 3 x Battery Charging Station (BCS) 30 x Household Battery System 2 x Streetlight 1 x Solar Home System |
|-------------------|---|---|

| | | |
|------------------------|---|---|
| Expected Output | : | To install the following RE systems in the barangay, 3 x Battery Charging Station (BCS) 30 x Household Battery System 2 x Streetlight 1 x Solar Home System |
|------------------------|---|---|

| | | |
|-----------------|---|--|
| Activity | : | Mobilize installation manpower Monitor the conduct of installation by installation contractor Monitor Installation progress Monitor observance of HSSE policy |
|-----------------|---|--|

| | | |
|---------------------------------------|---|---|
| Materials / Documents Required | : | IDS, compass, camera, list of members, installation report, level, tester |
|---------------------------------------|---|---|

3.13 Barangay Operation and Maintenance Training

| | | |
|-----------------------------|---|---|
| Required Activity | : | Barangay Visit |
| Responsibility | : | RE Engineer / Installation Contractor |
| Duration | : | 3 days |
| Timing / Predecessor | : | After Installation |
| Participants | : | BRECDA members, installation contractor |

| | | |
|------------------------|---|---|
| Objectives | : | To conduct operation and maintenance training for 30xHBS users and 1xSHS user, To conduct operation and maintenance training for up to 3xBCS operator and 2x SL operator |
| Expected Output | : | Operation and maintenance training conducted for 30xHBS users and 1xSHS user, Operation and maintenance training conducted for up to 3xBCS operators and 2x SL operators |

| | | |
|-----------------|---|---|
| Activity | : | Monitor the conduct of users training for 30xHBS and 1xSHS Monitor the conduct of operators training for 3xBCS and 2xSL. |
|-----------------|---|---|

| | | |
|---------------------------------------|---|---|
| Materials / Documents Required | : | Users' Operation and Maintenance Manual ^{xxv} Operators' Operation and Maintenance Manual ^{xxvi} System Performance Databook ^{xxvii} List of BRECDA Members Spot Map |
|---------------------------------------|---|---|

3.14 Systems Commissioning

| | | |
|-----------------------------|---|--|
| Required Activity | : | Barangay Visit |
| Responsibility | : | RE Engineer |
| Duration | : | 3 days |
| Timing / Predecessor | : | After Operation and Maintenance Training |
| Participants | : | Installation Contractor, BRECDA members |

| | | |
|-------------------|---|---|
| Objectives | : | 1. To properly commission the barangay PV systems, 3 x Battery Charging Station (BCS) 30 x Household Battery System 2 x Streetlight 1 x Solar Home System |
|-------------------|---|---|

| | | |
|------------------------|---|--|
| Expected Output | : | 1. Properly commission the barangay PV systems 3 x Battery Charging Station (BCS) 30 x Household Battery System 2 x Streetlight 1 x Solar Home System 2. Commissioning Report |
|------------------------|---|--|

| | | |
|-----------------|---|--|
| Activity | : | Conduct of systems commissioning Commissioning Report |
|-----------------|---|--|

| | | |
|---------------------------------------|---|--|
| Materials / Documents Required | : | Commissioning documents ^{xxviii} BCS HBS SL SHS Commissioning Report |
|---------------------------------------|---|--|

3.15 M1 Technical Visit

| | | |
|-----------------------------|---|----------------------------------|
| Required Activity | : | Barangay Visit |
| Responsibility | : | RE Engineer |
| Duration | : | 3 days |
| Timing / Predecessor | : | 30 days after Commissioning |
| Participants | : | BREEDA members, system operators |

| | | |
|-------------------|---|---|
| Objectives | : | Check system operation. To repair defective systems To collect system performance data To accomplish Maintenance checklist |
|-------------------|---|---|

| | | |
|------------------------|---|--|
| Expected Output | : | System operation checked. Defective systems repaired system performance data collected Maintenance checklist accomplished |
|------------------------|---|--|

| | | |
|-----------------|---|--|
| Activity | : | Inspect and check all barangay systems together with operators Repair defective systems Collect performance data accomplish maintenance checklist |
|-----------------|---|--|

| | | |
|---------------------------------------|---|--|
| Materials / Documents Required | : | Maintenance checklist ^{xxix} Tools |
|---------------------------------------|---|--|

3.16 M2 Technical Visit

| | | |
|-----------------------------|---|----------------------------------|
| Required Activity | : | Barangay Visit |
| Responsibility | : | RE Engineer |
| Duration | : | 3 days |
| Timing / Predecessor | : | 30 days after Commissioning |
| Participants | : | BRECDA members, system operators |

| | | |
|-------------------|---|---|
| Objectives | : | Check system operation. To repair defective systems To collect system performance data To accomplish Maintenance checklist |
|-------------------|---|---|

| | | |
|------------------------|---|--|
| Expected Output | : | System operation checked. Defective systems repaired system performance data collected Maintenance checklist accomplished |
|------------------------|---|--|

| | | |
|-----------------|---|--|
| Activity | : | Inspect and check all barangay systems together with operators Repair defective systems Collect performance data accomplish maintenance checklist |
|-----------------|---|--|

| | | |
|---------------------------------------|---|------------------------------------|
| Materials / Documents Required | : | Maintenance checklist Tools |
|---------------------------------------|---|------------------------------------|

3.17 M3 Technical Visit & Exit

| | | |
|-----------------------------|---|-----------------------------------|
| Required Activity | : | Barangay Visit |
| Responsibility | : | RE Engineer |
| Duration | : | 3 days |
| Timing / Predecessor | : | 30 days after Commissioning |
| Participants | : | BRECDAs members, system operators |

| | | |
|-------------------|---|---|
| Objectives | : | <ul style="list-style-type: none"> Check system operation. To repair defective systems To collect system performance data To accomplish Maintenance checklist To conduct exit preparations |
|-------------------|---|---|

| | | |
|------------------------|---|---|
| Expected Output | : | <ul style="list-style-type: none"> System operation checked. Defective systems repaired system performance data collected Maintenance checklist accomplished Technical exit performed. |
|------------------------|---|---|

| | | |
|---------------------------------------|---|--|
| Activity | : | <ul style="list-style-type: none"> Inspect and check all barangay systems together with operators Repair defective systems Collect performance data accomplish maintenance checklist Exit preparations. |
| Materials / Documents Required | : | <ul style="list-style-type: none"> Maintenance and Exit checklist^{xxx} Tools |

List of RE Documents and Files

- ¹ Slides on AMORE RE Technologies
- ² Slides on the RE component for implementation.
- ³ Slides on the RE system sustainability and environmental plan.
- ¹ Slides on the RE exit procedure.
- xxx¹ AMORE Implementation Manual
- xxx¹ Document Receiving Form
- ¹ Slides on AMORE RE Technologies
- ¹ Slides on the RE component for implementation.
- ¹ Slides on the RE system sustainability and environmental plan.
- ¹ Slides on the RE exit procedure.
- xxx¹ AMORE Implementation Manual
- xxx¹ Document Receiving Form
- ¹ Site Survey Form
- xxx¹ Service Personnel/Service Center Form
- ¹ Slides on AMORE RE Technologies
- ¹ Slides on the RE component for implementation.
- ¹ Slides on the RE system sustainability and environmental plan.
- ¹ Slides on the RE exit procedure.
- xxx AMORE Implementation Manual
- xxx¹ Document Receiving Form
- IDS Forms (3xBCS, 2xSL, 1xSHS & 20xHBS)
- xxx¹ Installation Order Form
- xxx¹ PV Systems Training Manual
- xxx¹ Delivery, Installation and Commissioning Manual (schedule, procedure, standards, forms) Manual

- xxx¹ Users' Operation and Maintenance Manual
- xxx¹ Operators' Operation and Maintenance Manual
- xxx¹ System Performance Databook
- xxx¹ Commissioning documents
- xxx¹ Maintenance checklist
- xxx¹ Exit checklist

“xxx” represent documents that require to be improved, in some cases developed.

1.0 AMORE Program Orientation

Required Activity : 5 days Training

Objectives :

- Discuss the AMORE program objectives, Principles, Project Stakeholder, Program Components and Participatory Sustainable Development Process
- Explain the Renewable Energy Technology (RET)
- Demonstrate the technical field implementation and Procedures.

Facilitator : Training Team

Attendees : Newly hired Community Development Workers and Renewable Energy Engineers (REE)

Expected output :

- Acquainted with the AMORE program Objectives Principles, Project Stakeholder, Program Components and Participatory Sustainable Development Process.
- Familiarized on the Renewable Energy Technology.

- 1.1 – Explain the following;
- AMORE Program Objectives
 - AMORE Program Principles
 - AMORE Project stakeholders
 - AMORE Program Components
 - AMORE Participatory Sustainable Development Process

2.0 Seminar Workshop on the Conduct Participatory Rural Appraisal (PRA)

Required Activity : 3 days Seminar/ workshop

- Objectives :
- Discuss ways of identifying/ prioritizing/ rank problems & needs of the people in the community.
 - Demonstrate ways of conducting household survey and household resource inventory.
 - Discuss ways of identifying service providers and agency services serving the community.

Facilitator : Training Team

Attendees : Community Development Workers (CDWs)

- Expected output :
- Demonstrate ways of identifying/ prioritizing/ ranking problems and needs of the people in the community through showing samples of the following;
 - Venn Diagramming
 - Service Mapping
 - Census Mapping
 - Pair-wise Ranking
 - Seasonal Calendar

2.1.1 Shows sample of Venn diagram representing real linkaging & distance between individuals and existing institutions in the barangay.

2.2.1 Comparing interest & preferences pair by pair and state reason for such preferences through pair wise ranking.

2.2.3 Graph the areas month by month (throughout the year) seasonal calendar showing seasonal constraints and opportunities.

2.2.4 Show how together data on the demographic people using census mapping.

3.0 Leadership Training

- Required Activity : Trainer's Training
- Objective :
- Explain the concept of Leader and Leadership.
 - Discuss the major functions of a leader and qualities of good leadership.
 - Differentiate the Leadership Styles used by the different kinds of leaders.
 - Discuss ways of Managing Conflict.
 - Demonstrate the Decision Making process.
 - Discuss Team/Group Building.
- Facilitator : Training Team
- Attendees : Community Development Workers (CDWs)
- Expected output :
- ✓ Acquired adequate knowledge on Basic Leadership and ability to facilitate the transfer of learning to the BRECDA officers and members.
 - ✓ Practice of leadership skills and knowledge in managing BRECDA members in;
 - Managing Conflict
 - Making right Decisions
 - Conduct Meetings
 - Maintaining wholesome interpersonal relationship.

| | |
|-------|---|
| 3.1.1 | Conceptualize leader and leadership |
| 3.1.2 | Enumerate and discuss the qualities & functions of a good leader and ways of developing one. |
| 3.1.3 | Describe and contrast the different leadership styles |
| 3.1.4 | Discuss the importance of communication in practicing leadership role. |
| 3.1.5 | Discuss ways of managing conflict |
| 3.1.6 | Explain the importance of cooperation & coordination in the organizational development process. |
| 3.1.7 | State how to make right decisions incases of problematic or conflicting situations. |
| 3.1.8 | Discuss the importance of Team/Group building in an organization. |

4.0 Financial Management /Recording & Monitoring Seminar

Required Activity : Seminar workshop

- Objective :
- Discuss and explain the principles of Financial Management/Accounting and its meaning.
 - Explain how to make entries on books of account.
 - Discuss the chart of accounts.
 - Explain the general guidelines on usage of different books.
 - Discuss the roles & functions of Audit and Inventory Committee.

Facilitator : Training Team

Attendees : CDWs , BRECDA Treasurer, IGP Bookkeeper.

- Expected output :
- ✓ Installed Books of Accounts
 - ✓ Gain knowledge on simple accounting for Financial Operation of BRECDA Association.

4.1.1 Coaching on Financial input on Books of Account of BRECDA association.

4.1.2 Follow-up coaching of the proper entry of cash ledger and journal of the BRECDA Treasurer/Operator.

5.0 Basic Entrepreneurship and Development Training

Required Activity : Seminar workshop / Training

- Objectives :
- Explain the basic concepts of Entrepreneurship
 - Identify and evaluate themselves vis-a vis the entrepreneurship qualities.
 - Identify business ideas on how to start their own business
 - Explain the different aspects of a business plan
 - Prepare a simple Business Plan

Facilitator : Training Team

Attendees : CDWs , BRECDA Chairmen, IGP Manager.

- Expected output :
- ✓ Acquired necessary knowledge on the concept and qualities of entrepreneurship.
 - ✓ Making of business plan for BRECDA Association.

5.1.1 Hands-on guidance of BRECDA IGP manager on preparing Business plan.

5.1.2 Follow-up relevant Business for BRECDA Association.

6.0 Project Proposal Making

Required Activity : Seminar workshop / Training

- Objectives :
- Discuss the basic importance on the Project proposal
 - Identify the different parts of a project proposal
 - Discuss THE Income Generating project proposal Format.
 - Analyze the project development cycle
 - Examine a sample of a project proposal in terms of content & process.
 - Written persuasive project proposal addressed to an agency for financial and technical support.

Facilitator : Training Team

Attendees : CDWs , BRECDA Chairmen, IGP Manager.

Expected output :

- ✓ A written community resource based project proposal for the Income Generating Project (IGP)

- 6.1.1 Discuss basic information on project proposal and identify its major parts.
- 6.1.2 Analyze the project development cycle
- 6.1.3 Identify prioritized community resource that can be mobilized for the project proposal making.
- 6.1.4 Write a persuasive project proposal.

7.0 Seminar Workshop on how to Conduct Par-Bat (Participatory Barangay Assessment Tool)

Required Activity : 2 days Seminar/Workshop

- Objectives :
- Discuss BRECDA Organizational structure
 - Explain the Roles and Responsibilities of the BRECDA officers.
 - Enumerate ways of performing duties and responsibilities as expected.
 - State projection on strengthening activity for BRECDA

Facilitator : Training Team

Attendees : Community Development Workers (CDWs)

- Expected output :
- Ability to discuss the organizational structure to BRECDA officers
 - Ability to discuss the duties and responsibilities of the BRECDA officers.
 - Simplify discussion on the BRECDA organizational structure and duties and responsibilities of the BRECDA officers according to the learning level of the clientele.

- 7.1. Discuss the BRECDA organizational structure
- 7.2. Explain the different roles and responsibilities of the BRECDA officers.
- 7.3. Explain ways of performing duties and responsibilities as expected.
- 7.4 Show correct way of answering the BRECDA assessment tool.



5.0 Livelihood Development

5.1 Existing Livelihood Assessment

Required Activity:

Conduct of the Existing Livelihood Assessment in coordination or integration with the conduct of the Participatory Rural Appraisal.

Objectives:

- ✓ To analyze the major livelihood activity in the community
- ✓ To determine doable innovations that will contribute to the increase in income of the community members
- ✓ To involve the community in assessing their existing livelihood activities and in determining practical innovations

Facilitators : Community Development Workers, Livelihood Coordinator, Enterprise Development Specialist, Training Team

Attendees : BRECDA Members

Expected Output:

- ✓ Livelihood Process Analysis Matrix
- ✓ List of priority innovations with indicative impact

5.1.1 Coordination of CDW, Training, and Livelihood

5.1.2 Joint Implementation of PRA and Existing Livelihood Assessment

5.1.3 Process analysis and field validation

5.2 Opportunity Assessment

Required Activity:

Conduct of the Existing Livelihood Assessment in coordination or integration with the conduct of the Participatory Rural Appraisal.

Objectives:

- ✓ To assess the different resources and skills available in the community
- ✓ To generate a menu of new or alternative livelihood activities

Facilitators : Community Development Workers, Livelihood Coordinator, Enterprise Development Specialist, Training Team

Attendees : BRECDA Members

Expected Output:

- ✓ Inventory of existing resources with indicative volumes and inventory of local skills
- ✓ Menu of alternative livelihood activities

5.2.1 Coordination of CDW, Training, and Livelihood

5.2.2 Joint Implementation of PRA and Opportunity Assessment

5.2.3 Field validation and rapid market research on the opportunities identified

5.3 Business Planning / Simple FS Preparation

Required Activity:

Conduct of market research, technology validation, and industry analysis and rapid inquiry into financing possibilities.

Objectives:

- ✓ To determine the viability of the identified priority innovation or alternative livelihood in terms of market realities, technical considerations, organization and management, and financial prospect
- ✓ To establish accurate assumptions for the investment proposal

Facilitators : Community Development Workers, Livelihood Coordinator, Enterprise Development Specialist, Training Team

Attendees : BRECDA Members

Expected Output:

- ✓ Business Plan or a Simple Feasibility Study
- ✓ Compendium of information necessary for the investment proposal

5.3.1 Market research, technology validation / testing, industry analysis, and interview of experts

5.3.2 Writing of the Business Plan / Simple FS

5.3.3 Presentation or validation of the Business Plan to the Bredda

5.3.4 Finalization of the Business Plan

5.4 Preparation of Investments Proposal

Required Activity:

Preparation of high quality investments proposals – brochures, portfolios, pamphlets, acetates, photo exhibits, power point presentations, video documentation – whichever is effective to the investors being considered

Objectives:

- ✓ To effectively market the investment proposals of the community
- ✓ To raise interest in the situation and development prospects of the community

Facilitators : Livelihood Coordinator, Enterprise Development Specialist, IEC Team, Livelihood Consultant

Attendees :

Expected Output:

- ✓ Investment Promotions materials

5.4.1 Consultation / brainstorming with the IEC Team

5.4.2 Development of the first drafts of the investment promotion materials

5.4.3 Validation or double checking of financial and technical data

5.4.4 Finalization and production of the

5.5 Investment Forum

Required Activity:

Preparation of investment forum materials, venue, and other logistical requirements. The Bredda need to be assisted with their Business Plan presentations. On the other hand, the prospects for investments need to be discussed beforehand with the potential partners or investors.

Objectives:

- ✓ To establish or strengthen partnerships between the communities and the investors
- ✓ To access funds, technical assistance, trainings, and linkages needed by the community
- ✓ To involve the Bredda members in investments promotion activities

Facilitators : CDWS, Livelihood Coordinator, Enterprise Development Specialist, Livelihood Consultant

Attendees : BRECDAs, Investors, LGUs, NGAs, and NGOs

Expected Output:

- ✓ Funding of the Bredda proposals
- ✓ Commitment to fund or support the Bredda proposals

- 5.5.1 Pre-forum dialogues with the potential investors or partners
- 5.5.2 Preparation of Business Plan presentation with the Bredda members
- 5.5.3 Preparation of venue, materials, and other logistical requirements needed for the forum

5.6 Skills Training

Required Activity:

The specific skills training or technology training requirements will be determined in the preceding activities. The skills training can coincide with the cross visits or field trainings. Partnerships with skills-training providers will be established.

Objectives:

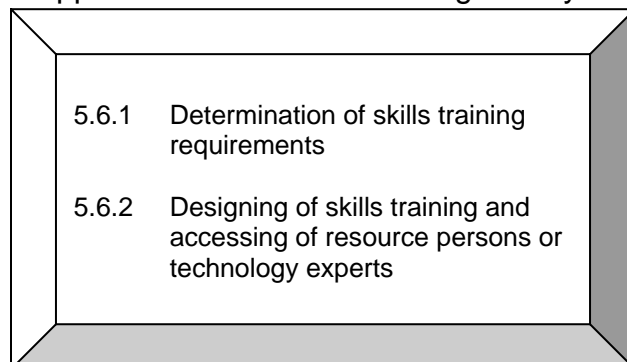
- ✓ To equip the community members with skills that can be applied for the improvement of existing livelihood activities or for the establishment of alternative livelihood activities
- ✓ To enhance the entrepreneurship capacities of the community members

Facilitators : CDWS, Livelihood Coordinator, Enterprise Development Specialist, Livelihood Consultant, Technical Skills Trainers, Training Team

Attendees : BRECDA members

Expected Output:

- ✓ Training of local technology experts
- ✓ Application of the skills training activity



5.7 Cross Visits

Required Activity:

The cross visits will focus on models, sites, experiences that demonstrate the productive utilization of renewable energy. At the least, the sites will feature small-scale livelihood activities that can be adapted in the Bredda areas. These sites will be determined or short listed beforehand.

Objectives:

- ✓ To demonstrate to the community members the productive use of renewable energy
- ✓ To demonstrate to the community members successful experiences in technology application or in small scale livelihood development
- ✓ To help the members visualize what they want to implement

Facilitators : CDWS, Livelihood Coordinator, Enterprise Development Specialist, Livelihood Consultant, Technical Skills Trainers

Attendees : BRECDA members

Expected Output:

- ✓ Livelihood project implementation plan
- ✓ Increased appreciation of the members on the subject technology or model

- | | |
|-------|---|
| 5.7.1 | Determination of cross visit requirements |
| 5.7.2 | Short-listing and assessment of the cross visit sites |
| 5.7.3 | Coordination and preparations for the cross visits |

5.8 Implementation of Livelihood Project

Required Activity:

All funding and training requirements should be completed at this point.

Objectives:

- ✓ To systematically start the livelihood project
- ✓ To involve the members to further enhance community ownership of the project
- ✓ To further clarify the terms, plans, and rules governing the project

Facilitators : CDWS, Livelihood Coordinator, Enterprise Development Specialist, Livelihood Consultant, Training Team

Attendees : BRECDA members

Expected Output:

- ✓ Start of the livelihood project
- ✓ Increased community ownership

- 5.8.1 Review and validation of TORs, MOAs, and other arrangements governing the project
- 5.8.2 Preparation of materials and other project components
- 5.8.3 Implementation planning with the members
- 5.8.4 Livelihood project start-up

5.9 Capital Build-Up

Required Activity:

All leadership trainings, value transformation workshops, and financial management trainings would have been completed at this point. The capital build up can coincide with and can become a venue for Bredda strengthening processes.

Objectives:

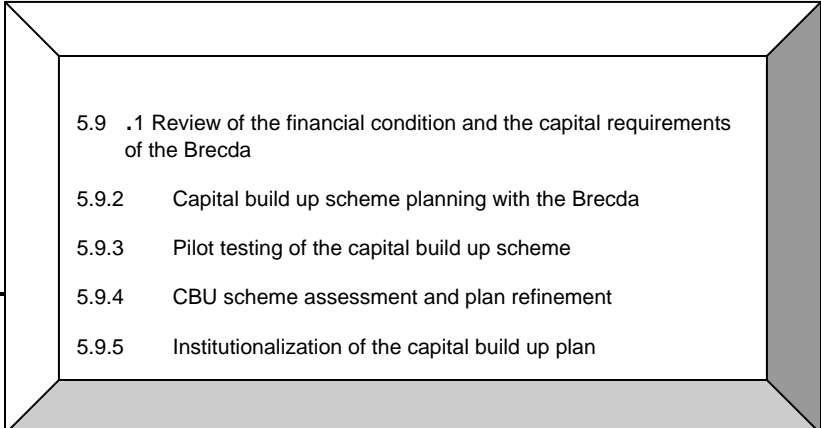
- ✓ To increase the capital base of the Bredda
- ✓ To institutionalize in the Bredda a simple but effective way of capital build up
- ✓ To further enhance community ownership of the livelihood project

Facilitators : CDWS, Livelihood Coordinator, Enterprise Development Specialist, Training Team

Attendees : BRECDA members

Expected Output:

- ✓ Start of a simple capital build up scheme

- 
- 5.9 .1 Review of the financial condition and the capital requirements of the Bredda
 - 5.9.2 Capital build up scheme planning with the Bredda
 - 5.9.3 Pilot testing of the capital build up scheme
 - 5.9.4 CBU scheme assessment and plan refinement
 - 5.9.5 Institutionalization of the capital build up plan

5.10 Management Training

Required Activity:

The Bredda members need responsive and effective management skills in the livelihood implementation and operation stage. The management training activity will impart upon them the basic skills of operations management.

Objectives:

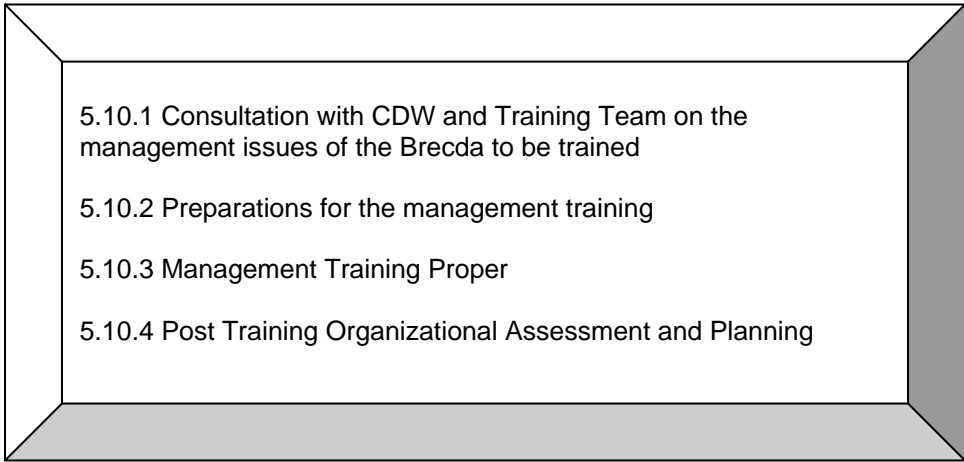
- ✓ To equip the Bredda members with basic management tools
- ✓ To determine or anticipate future management problems and formulate mitigating measures
- ✓ To further enhance the Bredda's capacity for conflict management and consensus building

Facilitators : CDWS, Livelihood Coordinator, Enterprise Development Specialist, Training Team

Attendees : BRECDA members

Expected Output:

- ✓ A simple management plan with anticipated problems and mitigating measures
- ✓ Outline of organizational policies geared towards improved management systems



5.10.1 Consultation with CDW and Training Team on the management issues of the Bredda to be trained

5.10.2 Preparations for the management training

5.10.3 Management Training Proper

5.10.4 Post Training Organizational Assessment and Planning

5.11 Monitoring and Evaluation

Required Activity:

The livelihood development process started with the basic objective of increasing the incomes of the Bredda members or improving the livelihood activities of the members. The Monitoring and Evaluation activity aims to establish whether any positive change has been imparted to the community. The M and E will also look into the effects of the capacity building activities.

Objectives:

- ✓ To initially determine the effects of the livelihood projects or innovations in terms of incomes, product quality, costs, and capacities
- ✓ To assist the Brecdas establish their sustainability mechanisms such as the capital build up plan
- ✓ To assist the Brecdas manage and mitigate early failures or problems

Facilitators : CDWS, Livelihood Coordinator, Enterprise Development Specialist, Training Team

Attendees : BRECDA members

Expected Output:

- ✓ Assessment of the effect of the livelihood projects or innovations
- ✓ Enhance Bredda problem management plan or mitigating measures plan

5.11.1 Designing of Monitoring and Evaluation instruments and indicators

5.11.2 Livelihood development assessment with the Bredda

5.11.3 Livelihood assessment of technical staff

5.11.4 Final sustainability plan with the Bredda

Attachment III. Illustrative AMORE Livelihood Development Materials

A. FISH PROCESSING PROJECT PRIMER

I. Background

The Alliance for Mindanao Off-Grid Renewable Energy (AMORE) Program is a United States Agency for International Development (USAID)-funded project that is being implemented by Winrock. AMORE is a three-year program that seeks to provide new and renewable energy systems to 160 off-grid barangays in Muslim Mindanao and build local capability through the institution of the Barangay Renewable Energy and Community Development Associations (BRECDAs).

The AMORE aims to establish renewable energy systems to, among other objectives, facilitate local economic development in its area of operations. The livelihood development efforts and needs in the AMORE barangays relate to the utilization of aquatic and fishery resources and to the use and development of post – harvest facilities.

As part of the program’s strategy to ensure the sustainability of the RE systems, efforts on livelihood development are being done. Livelihood development efforts are geared towards two basic approaches for sustainability – 1) generation of additional income utilizing the RE systems and 2) increasing income from existing livelihood activities for the maintenance and replication of RE systems. In light of the said context and in response to the reality that seaweed farming is a predominant economic activity in the program areas, the Tawi-Tawi Fish Processing Technology and Demonstration Center is being implemented in partnership with the Bureau of Post-Harvest Research and Extension (BPRE) and the Bureau of Fisheries and Aquatic Resources (BFAR).

II. Location

The project will be located in the municipality of Bongao, province of Tawi-Tawi. Its primary influence area will be barangays Pababag, Tongsinah, Lagasan, and Mandulan. These areas are abundant with fish species that are suitable for dried fish and other processed fish products. Such species include but is not limited to Yellow Fin Tuna, Grouper, Slip-mouth, Indo-Pacific

Mackerel, Flying Fish, Siganid, Snapper, Squid, Cuttle Fish, Cavalla, and others. The said barangays are considered to be Zamboanga City’s traditional source of dried fish.

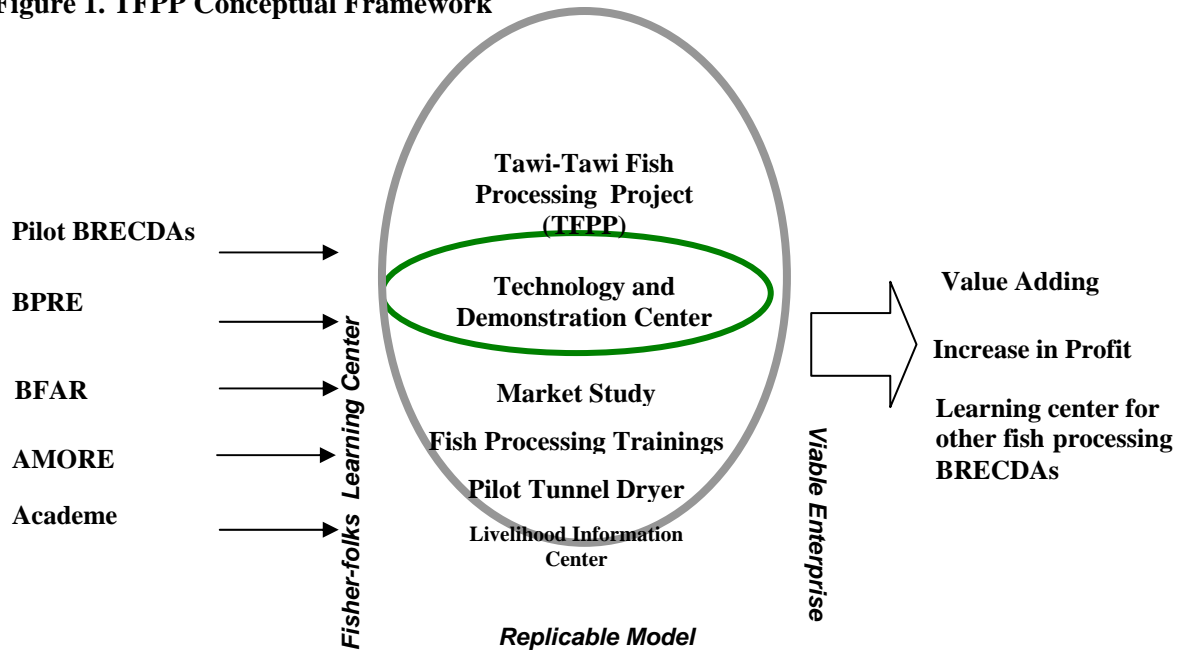
IV. Description

The project involves the establishment of a barangay-based *Fish Processing Technology and Demonstration Center*. The project aims to enhance or improve local fish processing activities in order to increase local incomes. This will be done through the use of simple but innovative drying and processing technologies. The training center will serve as a model and is expected to promote replication. Specifically, the project aims to:

- Develop the Pababag cluster as a site for educational cross visits for other communities involved in or planning to go into fish processing or drying;

- Demonstrate doable and replicable experiences in fish processing;
- Promote BRECDA investments;
- Promote external partnerships and investments;
- Promote simple positive changes in the production, post harvest, and marketing system.

Figure 1. TFPP Conceptual Framework



1. **Market Study** – Involves rapid market surveys and consultations with processed / dried fish traders and buyers. Specific concerns include quality and volume requirements, prices, and packaging. This component aims to link the value adding process to requirements of the market.

2. **Fish Processing Trainings** – Includes but is not limited to trainings on Good Manufacturing Practices, smoking, simple drying, fresh frozen filet preparation, and fishball making. These trainings focus on simple value-adding technologies that can be adapted even at the household level and even without expensive equipment outlay.

3. **Pilot Tunnel Dryer** – Involves the design, fabrication, and operationalization of a low-cost tunnel dryer. Integral to the hardware is the capacity of the BRECDA or local community members in utilizing more modern drying technologies or facilities.

4. **IEC** – Involves the collection of multi-media materials on livelihood technologies applicable to the area. An IEC or a livelihood technology information center will be set-up for the use of farmers / fisher-folk.

A. SEAWEEDS QUALITY ENHANCEMENT PROJECT PRIMER

I. Project Background

The AMORE Program's core project component is the installation and operation of community based renewable energy (RE) systems specifically photovoltaic systems. As part of the program's strategy to ensure the sustainability of the RE systems, efforts on livelihood development are being done. Livelihood development efforts are geared towards two basic approaches for sustainability – 1) generation of additional income utilizing the RE systems and 2) increasing income from existing livelihood activities for the maintenance and replication of RE systems. In light of the said context and in response to the reality that seaweed farming is a predominant economic activity in the program areas, the Tawi-Tawi Seaweeds Quality Improvement Project or TSQIP was studied.

The AMORE Program and the BRECDAs of the six barangays in Mantabuan Island jointly prepared the TSQIP. The barangays are Tambunan, North Tapian Bohe, South Tapian Bohe, Lakit-lakit, Sapaat, and Dalo-dalo. These barangays are located in the Municipality of Sapa-sapa in Tawi-Tawi province.

The predominant livelihood activity in the Mantabuan Island is the growing and selling of seaweeds or “*agal-agal*”. The predominant varieties raised are the “*duyan*” and “*tambalang*” or *Eucheuma cottonii*. Although fishing activities sustain the common household with daily food requirements, seaweeds production generate the income needed for other commodities and services. Such commodities include rice, fuel, coffee, sugar, cooking oil, and basic medicines. Seaweeds farming also contribute to the income spent for education and housing. Majority of the BRECDA members confirm that seaweeds production is the major source of income in the island and that any innovation promoting its improvement will be significant.

The livelihood plan focuses on simple innovations that are doable, low cost, and geared towards immediate income increase. These innovations are expected to improve product quality, reduce production costs, and increase the capacity of farmers to secure fairer prices for their seaweeds.

In order to be more precise with the identification of the said innovations, a participatory livelihood assessment and improvement process was conducted. BRECDA representatives were involved in the entire process.

II. Project Description

The project involves the establishment of a barangay-based seaweeds training and demonstration center. The project aims to enhance or improve local seaweed production and marketing activities in order to increase local incomes. This will be done through the application of simple innovations. The training center will serve as a model and is expected to promote replication. The replication process aims to establish primary seaweed quality improvement centers at the barangays and a coordinative council at the island level.

The project operates on the idea of establishing “simple innovations with significant effects”. The TSQIP aims to:

- Develop Mantabuan Island as a site for educational cross visits for other seaweed producing communities;
- Demonstrate doable and replicable experiences in improving the quality of seaweeds;

- Promote BRECDA investments;
- Promote external partnerships and investments;
- Promote simple positive changes in the production, post harvest, and marketing system.

The following figure illustrates the conceptual framework of the project. The arrows point upward indicating quality improvement or income increase. The central arrow represents the project and it contains the project components. At its bottom is the basic objective of the establishing a replicable model. On its sides are the two functions of the project: as a learning centers and as a viable enterprise. The arrows on the left illustrate the project's prime movers according to order of involvement. The arrows on the right represent the project's target partners, clientele, or participants.

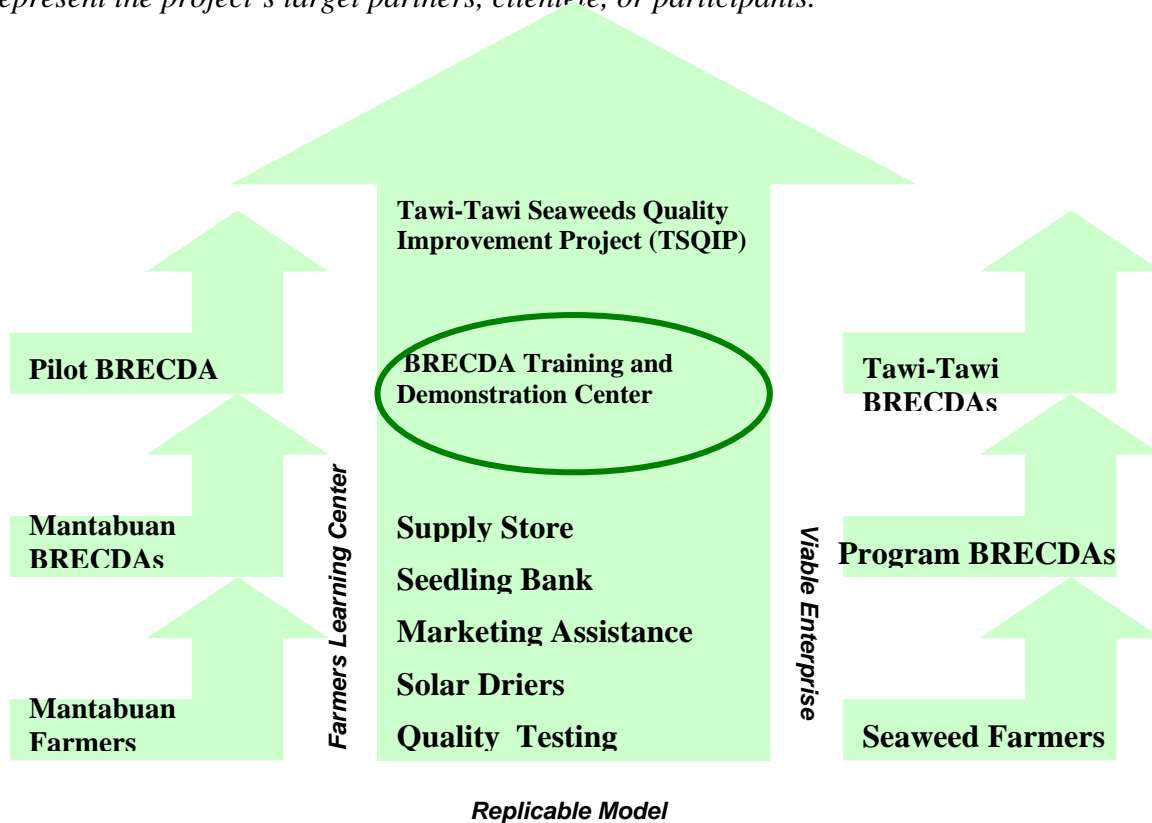


Figure 1. TSQIP Conceptual Framework

1. **Supply Store** – Involves the retailing of production inputs such as polyethylene ropes, nylons, nets, and ties. Basic consumer goods such as rice, sugar, coffee, gasoline, and cooking oil will be offered by the store in the long run. This component aims to decrease input costs and to provide inputs to members who are planning to expand their production. The consumer goods will provide the members with basic needs while waiting for the seaweeds to mature. This prevents untimely harvesting. This component has an inherent micro-financing dimension.

2. **Seedling Bank** – Involves the establishment and maintenance of a common barangay nursery from where the members can buy their seedlings. This nursery, in cooperation with industry experts, is expected to propagate varieties that are in demand and are at the same time suitable in

the area. At the moment, the variety locally called “*duyan*” or “*durian*” is the preferred variety due to its resistance to a disease called “*ice-ice*”. Other varieties like the “*tambalang*” will also be cultured. The nursery is also expected to ensure the constant availability of good quality planting materials.

3. **Marketing Assistance** – Involves the establishment of local trading posts manned by external traders, the BRECDA, or both. Traders in Bongao and other areas will be enjoined to go directly to the barangays to buy seaweeds. Market information systems such as the establishment of a radio communications system will be pursued in order to have immediate access to industry information. This component also involves the organization of the BRECDA as a local assembler and service provider for drying, packing, and transshipment.

4. **Solar Driers** – Involves the establishment of 5 platform type (*pantan* or *pantalan*) 4 by 5 meter solar driers with nets and plastic canvas and made of bamboo and lumber. Three of these are to be located in key docking points while the two solar driers will be operated by the BRECDA for redrying purposes. This component aims to increase harvest volumes, hasten and improve the drying process, and consequently improve the quality of the seaweeds.

5. **Quality Testing** – This component aims to improve the quality of the seaweeds and to increase the ability of the seaweed farmers to negotiate for better prices. It addresses the problem on high moisture content; presence of sand, salt, and plastic ties in the seaweeds. It specifically involves the use of a moisture meter to determine moisture content. This component will also explore the possibility of making the BRECDA an industry recognized quality-certifying body. Partnership building and consultation with traders particularly on quality and pricing schemes will be done under this component.

The said components aim to increase the scale of production, improve quality, improve selling price, and reduce the costs of seaweed production and marketing. The following table illustrates how each component contributes to these objectives.

Table 1. Components and Objectives Matrix

| | Scale-up Production | Improve Quality | Improve Price | Reduce Costs |
|----------------------|---------------------|-----------------|---------------|--------------|
| Brecda Supply Store | ✓ | | | ✓ |
| Brecda Seedling Bank | ✓ | ✓ | | ✓ |
| Marketing Assistance | | | ✓ | ✓ |
| Quality Control | | ✓ | ✓ | |
| Solar Drier | ✓ | ✓ | ✓ | |

TSQIP Target Partners and Clients

The BRECDA members and the seaweed producers in the program areas are the target clientele of the project. As a training and demonstration center, the TSQIP aims to serve all seaweed producing areas. As an enterprise, it aims to initially serve one BRECDA or 30 households, later on to serve all the 6 BRECDAs or 180 households in located in Mantabuan Island, and eventually

to serve all seaweed farmers in the island. The following table illustrates the total clientele population in the island.

Table 11. Household Population and Target Clients in Mantabuan Island

| Barangay | No. of BRECDA | No. of Members | Total No. of Households |
|-----------------------|----------------------|-----------------------|--------------------------------|
| Sapaat | 1 | 30 | 125 |
| Lakit-Lakit | 1 | 30 | 115 |
| Tambunan | 1 | 30 | 132 |
| North Tapan Bohe | 1 | 30 | 154 |
| South Tapan Bohe | 1 | 30 | 137 |
| Dalo-Dalo | 1 | 30 | 198 |
| Total | 6 | 180 | 861 |
| Target Clients | | | |
| Phase 1 | | 30 | |
| Phase 2 | | 180 | |
| Phase 3 | | 861 | |

Training and demonstration activities and sustained community consultations will be done in order to enjoin the community members to participate and support the TSQIP. Specifically, the project will use the following services as promotional tools:

- Production loans for members
- Use of drying facilities
- Marketing assistance
- Product quality testing
- Technology trainings

III. Possible Roles of Partners

| Stakeholder | Role |
|--------------------------|--|
| Pilot BRECDA | Directly manages the project, provides equity capital, personnel, site, structures, and other facilities or materials necessary for project operations; establishes and enforces policies and mechanisms that ensure project sustainability. |
| Mantabuan Island BRECDAs | Supports and promotes the project; provides information on production volumes; participates in planning and consultative meetings. |
| Mantabuan Island Farmers | Participates in the training process, patronizes the services of the project, provides information on production. |
| AMORE Program | Assists the BRECDAs in building its financial management and enterprise operations capability; provides training funds and personnel where appropriate. |

| | |
|---|---|
| Traders | Provides a ready market for the BRECDA's produce; provides information on industry requirements and prices. |
| SIAP | Provides the BRECDA information on the requirements of the market in terms of quality, price, and volume; assist the BRECDA to become an industry recognized quality certification body; assist the BRECDA to link with seaweed exporters and processors. |
| Quedancor / LBP / MFI | Assists in building the financial management capability of the BRECDA; provide micro-credit services to the BRECDAs and to the farmers in island. |
| Office of the Provincial Agriculturist Department of Agriculture | Assists in technology trainings of seaweed rearing and variety improvement; assist in establishing social and physical measures against illegal fishing practices; facilitate cross visits and technology training activities. |
| ARMM Social Fund LEAP | Assist in the provision of trainings, infrastructure, equipment, and micro-credit services. |

IV. Investment Opportunities

The investments can be pursued per component but the value of a systems approach is duly stressed. Together, the said components i.e. innovations are expected to significantly improve the production, post harvest, and marketing processes of the farmers.

The following estimates refer to the investment requirements for one (1) BRECDA. As mentioned earlier, coordinative and federative activities will be implemented to cluster the six organizations in the island.

Table 4. Livelihood Investment Requirements per BRECDA

| Project Component | Requirement |
|-----------------------------|--------------------|
| Supply Store (Micro Credit) | 300,000 |
| Seedling Bank | 100,000 |
| Marketing Assistance | 50,000 |
| Quality Control | 100,000 |
| Solar Drier | 100,000 |
| Total | 650,000 |

The BRECDA investments will include local materials such as seedlings and wood. It also include the labor used in the establishment of project structures. Although not valuated, the BRECDA investments

Annex E
Sample Barangay Survey

SURVEY FORM

(Barangay Level)

Barangay : _____
Municipality/City : _____
Province : _____
Region : _____
Barangay Captain : _____
Barangay Secretary : _____
Topo Map Block No. : _____
Attachment : _____
() Barangay Profile () Spot Map () Others : _____

IV. General Barangay Information :

- a) Type of Barangay : () coastal () inland () upland () island
) Total land area (in hectares) : _____
) Distance of Barangay from poblacion/town center : _____
) Distance to the nearest city : _____
) Distance to the town market : _____
) Distance to the nearest electricity grid/coop. : _____
) Internal revenue allotment (IRA) : _____
) Total Population : _____ male : _____ female : _____
Population growth rate for the last 3 to 5 years (%) : _____
) Total number of households in the barangay : _____
Household growth rate for the last 3 to 5 years (%) : _____
) Distributions of households :
 () Main cluster (20 or more households) and the rest are dispersed.
 () Many small clusters (less than 5 to 9 households per cluster).
 () Dispersed households (households are scattered or no distinct clustering pattern.
 () Others, specify : (Describe average distances between clusters/sitios)

() Number of sitios : _____

k) Religious Affiliation (%) : ___ Muslim ___ Catholic ___ Protestant ___ Others

IV. Socio-Economic Profile:

| a) Source of income | # of HHS | Description of Activity (Crop Produced, Seasonality, average production, etc.) |
|--|----------|---|
| () Farming and other farming related activities | _____ | _____ |
| () Logging/Kaingin, etc. | _____ | _____ |
| () Fishing | _____ | _____ |
| () Carpentry, masonry, construction, etc. | _____ | _____ |
| () Businessman, trader, retailer | _____ | _____ |
| () Small store owner | _____ | _____ |
| () Salaried workers | _____ | _____ |
| () Others, please specify: | _____ | _____ |

-) Average Annual Income per Households % per HHs
- Less than P29,000.00: _____
- Over P29,000.00 to P55,000.00: _____
- Above P55,000.00: _____

-) Priority Use of Income (Rank and amount spent per month)

| | Amount | Rank |
|----------------------|--------|-------|
| Food | _____ | _____ |
| Clothing | _____ | _____ |
| Energy | _____ | _____ |
| House Rent | _____ | _____ |
| Education | _____ | _____ |
| Capital for Business | _____ | _____ |
| Others | _____ | _____ |

-) Availment of Credit

Source of Credit (describe): _____

Interest Rate: _____

Payment Mode: _____

IV. Available Infrastructure :

- 1) Type of access road : cemented asphalted dirt graded
- 2) Future plan for road improvement: yes when? _____ none
- 4) Regular means of transportation?

| | Fare per person |
|-------------------------------|-----------------|
| Jeep | _____ |
| Motorecycle | _____ |
| Animal (horse, carabao, etc.) | _____ |
| Motor Boat | _____ |

- 4) Type of dwellings (# of HHs
- Cogon/Nipa/Light Material: _____
- Concrete/Cement: _____
- Others _____

- 4) Presence of community facilities :

- Barangay Hall
- Barangay Health Center/Rural Health Unit
- Barangay School/s day care primary elementary secondary

IV. Current Energy Use for Lighting/Radio

- | 1. Type of Energy Source | Volume or
No. per month | Unit Price |
|-----------------------------|----------------------------|------------|
| a. Kerosene | _____ | _____ |
| b. Candles | _____ | _____ |
| c. Dry Cell Batteries | _____ | _____ |
| d. Battery Charging, if yes | | |

d.1 Where is the nearest battery charging station (km.)? _____

d.2 What is the average price (including transport cost) per charging? P_____

- c. Genset, if yes () diesel () regular gasoline
- e.1 How many households are connected to the genset? _____
 - e.2 Number and wattage of bulb used per household _____
 - e.3 Cost of average monthly charge? _____
 - e.4 Size of Genset _____
 - e.5 Who operates the genset? _____
 - e.6 Hours of Operation in a day? _____
 - e.7 Cost of fuel (in liters)? _____
- e. Others _____

I. Energy Needs Assessment:

1. Assuming you have electricity, what will be your priority usage of electricity?
 () HH lighting () HH Appliances () Support to Personal Business () Others, specify _____
2. Would you be interested in a community livelihood project? If yes. What?
 _____ ice plant _____ rice hull _____ dryers _____ others, specify _____

I. Renewable Energy Resource Potential (If possible, please provide data).

1. Solar Energy

- 1.1 No. of hours/day when sun is available? _____ hrs.
- 1.1 Is there existing solar installations in the barangay? _____ If yes, type of application (ex. Solar home system, solar streetlight, solar battery charging station).
- 1.1 During rainy months, how long does the rain last? _____ days

2. Biomass

| <u>Main agricultural product</u> | <u>Area in has. (Estimated)</u> | <u>Ave. Yield/Has. (last 3 years)</u> |
|----------------------------------|----------------------------------|---|
| Rice | _____ | _____ |
| Coconut | _____ | _____ |
| Corn | _____ | _____ |
| Vegetables | _____ | _____ |
| Bamboo | _____ | _____ |
| Others (please specify) | _____ | _____ |

Livestock

Number of Heads per Household

| | |
|-------------------------|-------|
| Pig | _____ |
| Cattle/carabao | _____ |
| Chicken/Fowl | _____ |
| Others (please specify) | _____ |

3. Micro/Mini-Hydro

- 3.1 What water resource is available?
 () creek () waterfalls, how high _____ () river () other, please specify _____
- 3.1 Distance of the source from barangay center? _____ kms.
- 3.1 Pattern of water resource per year?
 Months with high water availability: _____
 Months with low water availability: _____

4. Wind Energy

- 4.1 Is there any area where strong wind is noticeable? _____
4.2 Distance of the area from barangay center? _____ kms.
4.3 Months of windy season _____

5. Other energy resource available, specify?

- Natural Gas Geothermal Others: _____

VII. V. Awareness and Social Acceptance

1. Are you aware of other forms of energy supply other than the grid? (i.e. renewable energy)

- Yes No

If yes, what _____

1. Are you interested in using any renewable energy sources (e.g. solar, wind, biomass, micro/mini-hydro) as an alternative energy in your barangay? Why? _____

1. Would you be willing to organize and implement a renewable energy project?

- Yes No

VI. Institutional Commitment

1. Presence of an existing cooperative/NGO which might be an implementor of a developmental project?

- Yes, please enumerate.

Name

Activity

| Name | Activity |
|-------|----------|
| _____ | _____ |
| _____ | _____ |

- None, please recommend an institution which can act as project implementor.

Name: _____

1. Barangay contribution: Is barangay willing to contribute to the project? If yes,

- financial counterpart how much? _____
 manpower and labor
 construction supplies
 land and building for the power house or BAPA office
 security
 others, please specify:

Remarks/Recommendation: _____

Respondent: _____

Name and Signature

Position: _____

Interviewer: _____

Name and Signature

Annex F. The BRECDA Organizational Capacity Index

Background

The BRECDA Organizational Capability Index or BRECDA OCI has been adopted from the OCI developed by the Philippine Rural Reconstruction Movement in 1999. The OCI has been pretested in PRRM's 11 provinces, and applied to community organizations such as fisherfolk, farmers (upland, lowland), and women. It has been adopted for use in the World-Bank funded ARCDP of the Department of Agrarian Reform nationwide.

It is basically a measurement tool to measure the capability of an organization using descriptive indicators that is universally accepted and applicable across any type of community organization.

As applied to the AMORE BRECDA organization, the OCI was revised to reflect specific indicators unique to its organizational nature.

The OCI has been used for the purpose of aiding AMORE in setting a benchmark of BRECDA organizational status as a guide in developing BRECDA specific plans. Unless management decides to adopt the OCI for another purpose, specifically, as the main evaluation tool of the project, the OCI is only applied in the earlier cited context and purpose.

The indices of the OCI is similar to the indicators in the AMORE developed Participatory BRECDA Assessment Tool (ParBAT). While the ParBAT, as developed, was used by the BRECDA itself within the context of a PO-initiated evaluation process, the OCI was developed for the use of project implementors. AMORE CDWs were the primary end users of the tool during the area-wide assessment and planning workshops being conducted by the project.

Major Indices

The OCI has four major indices:

1. Group Orientation/Basis of Unity
2. Sustainable Area Development Management
3. Organizational Development and Management
4. Development Cooperation and Advocacy

Each index has been assigned a value of 25, for a total OCI score of 100.

Computation of OCI

$$\begin{aligned} C1 &= \text{Rating} \times 25 \\ C2 &= (C2.1 + C2.2 + C2.3) \times 8 \\ C3 &= (C3.1 + C3.2 + C3.3 + C3.4 + C3.5 + C3.6) \times 4 \\ C4 &= \text{Rating} \times 25 \\ \text{OCI} &= (C1 + C2 + C3 + C4) / 4 \end{aligned}$$

BRECDA Levels of Organizational Capability according to Results OCI Rating

| Level | OCI Rating / Stage of Organizational Capacity | Description | |
|-------|---|----------------------------|---|
| 1 | 1- 30 Entry | 1-15 | Formative, Surviving |
| | | 16-30 | Surviving to Partially Subsistent |
| 2 | 31 – 60 Strengthening and Consolidation | 31-45 | Subsistent to Partially Self-sufficient |
| | | 46-60 | Self-sufficient to Partially Self-reliant |
| 3 | 61-100 Phase out and Turnover | Self-reliant to Autonomous | |

BRECDA Levels according to OCI Ratings

Level 1 – Entry

OCI Rating: 1-30

Early phase (OCI =1-15)

Description: (Formative, Survival)

Organization is dependent on the CDW for guidance, monitoring, and implementation of activities; All BRECDA activities is initiated by the CDW, with little or no assistance from BRECDA leaders; No BRECDA activities conducted apart from meetings; There is little or no participation of BRECDA members; Members do not know the VMGO of the organization, their roles and responsibilities as members of the BRECDA; Basic organization in place; committees formed but not functioning, irregular conduct of meetings; No record of attendance to meetings; No minutes of the meetings; O&M Fund minimum amount (P33,000) incomplete, with withdrawals recorded in the passbook; Only 50% of the monthly projected income is met, with more than 50% of income as cash receivables; financial controls present but little or lax enforcement; No financial records are kept or are of poor quality (not accurate and up-to-date); RE System installed; technical trainings conducted, with frequent refresher trainings; Majority of BRECDA members do not follow load management and guidelines for use and maintenance of systems; RE technicians dependent on the visits of the AMORE engineers to conduct checkups and preventive maintenance of PV systems

Level 1 – Entry

Late phase (OCI = 16-30)

Description: (Surviving to Partially Subsistent)

Organization is dependent on the CDW for guidance and monitoring of BRECDA activities; Most of the BRECDA activities are identified and initiated by the CDW; Some activities are initiated by the BRECDA leaders, with maximum assistance provided by CDW; There is little or moderate participation from BRECDA members; Members are knowledgeable of VMGO of the organization and their roles and responsibilities as members of the BRECDA; 50% of BRECDA members attend meetings; Some members participate in the implementation of BRECDA activities; Some BRECDA committees functioning, with moderate assistance from the CDW in the conduct of meetings; Minutes of meetings are kept, but quality as to content and form are

still low; O&M Fund minimum amount (P33,000) complete, but with withdrawals recorded in the passbook; 75% of the monthly projected income is met, with less than 50% of income as receivables; financial controls present, but only occasionally enforced; Financial records follow the prescribed format, and are generally up-to-date and accurate; RE System installed; technical trainings conducted, with frequent refresher trainings; Some BRECDA members do not follow load management and guidelines for use and maintenance of systems; RE technicians assisting AMORE RE engineers in conducting regular checkups and preventive maintenance of PV systems

Level 2 – Strengthening and Consolidation

OCI Rating: 31 – 60

Early phase (OCI = 31-45)

Description (Subsistent to Partially Self-sufficient):

Organization is dependent on the CDW for guidance and monitoring of BRECDA activities; Some BRECDA activities are identified and initiated by the BRECDA leaders, with moderate assistance provided by CDW in the implementation; Members are knowledgeable of VMGO of the organization and their roles and responsibilities as members of the BRECDA; At least 75% of BRECDA members attend BRECDA committee meetings and monthly general assembly; Some BRECDA members participate in the implementation of BRECDA activities; All BRECDA committees functioning and regular meetings conducted with moderate assistance from the CDW; Minutes of meetings are kept, attendance to meetings monitored and recorded, minutes of the meeting contain agenda, issues discussed, and proposed resolution/tasking; O&M Fund minimum amount (P33,000) complete and intact; financial controls present and enforced most of the time; 75% of the monthly projected income is met, with less than 50% of income as cash receivables; Only a few BRECDA members do not follow load management and guidelines for use and maintenance of systems; RE technicians assisting AMORE RE engineers in conducting regular checkups and preventive maintenance of PV systems; RE technicians already capable of simple troubleshooting and can conduct preventive maintenance repairs and monitoring on the systems even without the presence of the AMORE engineers; Technicians still require refresher trainings

Late phase (OCI = 46-60)

Description (Self-sufficient to Partially Self-reliant):

BRECDA leaders implement activities with moderate assistance provided by CDW; BRECDA leaders initiate the identification and simple planning of activities for implementation, with moderate assistance provided by CDW in the implementation, and moderate to active participation from members; BRECDA leaders can conduct simple monitoring of the organization; At least 90% of BRECDA members attend BRECDA committee meetings and monthly general assembly; Some BRECDA members participate in the implementation of BRECDA activities; All committees functioning, with moderate assistance from the CDW; BRECDA meetings are regularly conducted, with the leaders initiating and facilitating the proceedings of the meeting, and the CDW providing only inputs and occasional guidance; Minutes of meetings are kept, attendance to meetings monitored and recorded, minutes contain agenda, issues discussed, and proposed resolution/tasking; O&M Fund minimum amount (P33,000) complete and intact; 90-100% of projected income is met; No cash receivables; Financial records are up-to-date and accurate; financial controls strictly enforced; RE technicians already capable of simple troubleshooting and regularly conduct preventive maintenance repairs on the systems; Technicians can already provide simple orientation for BRECDA households on the use and maintenance of their systems;

Level 3 – Phase out and Turn over

OCI Rating: 61-100**Description (Self-reliant to Autonomous):**

BRECDA leaders implement activities with little assistance provided by CDW; BRECDA leaders initiate the identification and simple planning of activities for implementation, with active participation from members; All committees functioning, with moderate assistance from the CDW; BRECDA meetings are regularly conducted, with the leaders initiating and facilitating the proceedings of the meeting, with the CDW providing only inputs and occasional guidance; Minutes of meetings are kept, attendance to meetings monitored and recorded, minutes contain agenda, issues discussed, and proposed resolution/tasking; BRECDA members are members of BRECDA committees; BRECDA members take part in the planning and implementation of BRECDA activities; O&M Fund minimum amount (P33,000) complete and intact; 90-100% of projected income is collected; Financial records are up-to-date and accurate; financial controls strictly enforced; RE technicians regularly conduct preventive maintenance repairs on the systems, provide orientation for BRECDA households on the use and maintenance of their systems, and assist in the enforcement of load management and use of the systems; Potential livelihood opportunities identified and proposals developed and submitted for funding; BRECDA recognized and accredited as an organization in the barangay; BRECDA participating in the BLGU

| BARANGAYS | Index | | | | | | | | | | | | | | | BCI Score | No. of Yrs. Established (as of July '04) |
|------------------------|-------|----|-------|-------|-------|----|-------|-------|-------|-------|-------|-------|-----|---|----|-----------|--|
| | C.1 | | C.2 | | | | C.3 | | | | | | C.4 | | | | |
| | | | C.2.1 | C.2.2 | C.2.3 | | C.3.1 | C.3.2 | C.3.3 | C.3.4 | C.3.5 | C.3.6 | | | | | |
| Tapian Sokah | 2 | 50 | 3 | 2 | 3 | 64 | 2 | 2 | 5 | 3 | 3 | 3 | 72 | 3 | 75 | 65.25 | 1 year |
| Pamasan | 2 | 50 | 3 | 2 | 1 | 48 | 2 | 2 | 4 | 2 | 3 | 2 | 60 | 2 | 50 | 52 | 10 mos. |
| Kepeng | 2 | 50 | 3 | 2 | 1 | 48 | 2 | 2 | 4 | 2 | 2 | 2 | 56 | 2 | 50 | 51 | 10 mos. |
| Pagatpat | 2 | 50 | 3 | 2 | 1 | 48 | 2 | 2 | 4 | 2 | 2 | 2 | 56 | 2 | 50 | 51 | 1 yr. 7 mos. |
| Butun, Tandubas | 2 | 50 | 3 | 2 | 1 | 48 | 1 | 1 | 3 | 2 | 2 | 2 | 44 | 2 | 50 | 48 | 10 mos. |
| Tondon | 2 | 50 | 3 | 2 | 1 | 48 | 1 | 1 | 3 | 2 | 2 | 1 | 40 | 2 | 50 | 47 | 1 yr. 5 mos. |
| Lookan Latuan | 2 | 50 | 3 | 2 | 1 | 48 | 1 | 1 | 3 | 2 | 2 | 1 | 40 | 2 | 50 | 47 | 1 yr. 6 mos. |
| Butun, Sapa-Sapa | 2 | 50 | 3 | 2 | 1 | 48 | 1 | 1 | 3 | 2 | 2 | 1 | 40 | 2 | 50 | 47 | 10 mos. |
| Darol Akram | 2 | 50 | 3 | 2 | 1 | 48 | 1 | 1 | 3 | 2 | 2 | 1 | 40 | 2 | 50 | 47 | 1 yr. 5 mos. |
| Darussalam | 1 | 25 | 1 | 2 | 1 | 32 | 1 | 1 | 2 | 2 | 2 | 1 | 36 | 2 | 50 | 35.75 | 1 yr. 5 mos. |
| Look Nato | 1 | 25 | 1 | 2 | 1 | 32 | 1 | 1 | 2 | 2 | 2 | 1 | 36 | 2 | 50 | 35.75 | 1 yr. 5 mos. |
| Tanggah, Tabawan | 1 | 25 | 1 | 2 | 1 | 32 | 1 | 1 | 2 | 2 | 2 | 1 | 36 | 2 | 50 | 35.75 | 10 mos. |
| Sumangat | 1 | 25 | 1 | 2 | 1 | 32 | 1 | 1 | 2 | 2 | 2 | 1 | 36 | 2 | 50 | 35.75 | 1 yr. 6 mos. |
| Parang Pantay | 1 | 25 | 1 | 2 | 1 | 32 | 1 | 1 | 2 | 2 | 2 | 1 | 36 | 2 | 50 | 35.75 | 1 yr. 5 mos. |
| Sokah Sokah | 1 | 25 | 1 | 2 | 1 | 32 | 1 | 1 | 2 | 2 | 2 | 1 | 36 | 2 | 50 | 35.75 | 1 yr. 6 mos. |
| Lookan Banaran | 1 | 25 | 1 | 2 | 1 | 32 | 1 | 1 | 2 | 2 | 2 | 1 | 36 | 2 | 50 | 35.75 | 2 Months |
| Basnunuk | 1 | 25 | 1 | 2 | 1 | 32 | 1 | 1 | 1 | 2 | 2 | 1 | 32 | 2 | 50 | 34.75 | 9 mos. |
| Palate | 1 | 25 | 1 | 2 | 1 | 32 | 1 | 1 | 1 | 2 | 2 | 1 | 32 | 2 | 50 | 34.75 | 1 yr. 6 mos. |
| Sumangday | 1 | 25 | 1 | 2 | 1 | 32 | 1 | 1 | 1 | 2 | 2 | 1 | 32 | 2 | 50 | 34.75 | 1 yr. 5 mos. |
| Karaha | 1 | 25 | 1 | 2 | 1 | 32 | 1 | 1 | 1 | 2 | 2 | 1 | 32 | 2 | 50 | 34.75 | 1 yr. 5 mos. |
| Silubbog | 1 | 25 | 1 | 2 | 1 | 32 | 1 | 1 | 1 | 1 | 1 | 2 | 28 | 1 | 25 | 27.5 | 1 yr. |
| Basbas Likud | 1 | 25 | 1 | 2 | 1 | 32 | 1 | 1 | 1 | 1 | 1 | 2 | 28 | 1 | 25 | 27.5 | 1 yr. 5 mos. |
| Tumbagaan | 1 | 25 | 1 | 2 | 1 | 32 | 1 | 1 | 1 | 1 | 1 | 2 | 28 | 1 | 25 | 27.5 | 1 yr. 4 mos. |
| Sidalling (Kalupag) | 1 | 25 | 1 | 2 | 1 | 32 | 1 | 1 | 1 | 1 | 1 | 2 | 28 | 1 | 25 | 27.5 | 1 yr. 3 mos. |
| Pampang, Tabawan | 1 | 25 | 1 | 2 | 1 | 32 | 1 | 1 | 1 | 1 | 1 | 2 | 28 | 1 | 25 | 27.5 | 11 mos. |
| Malanta | 1 | 25 | 1 | 2 | 1 | 32 | 1 | 1 | 1 | 1 | 1 | 2 | 28 | 1 | 25 | 27.5 | 2 mos. |
| South Tapian Bohe | 1 | 25 | 1 | 2 | 1 | 32 | 1 | 1 | 1 | 1 | 1 | 2 | 28 | 1 | 25 | 27.5 | 2 yrs. |
| Balimbing | 1 | 25 | 1 | 2 | 1 | 32 | 1 | 1 | 1 | 1 | 1 | 2 | 28 | 1 | 25 | 27.5 | 1 yr. 5 mos. |
| Laud, Tabawan | 1 | 25 | 1 | 2 | 1 | 32 | 1 | 1 | 1 | 1 | 1 | 2 | 28 | 1 | 25 | 27.5 | 11 mos. |
| Tarawakan | 1 | 25 | 1 | 2 | 1 | 32 | 1 | 1 | 1 | 1 | 1 | 2 | 28 | 1 | 25 | 27.5 | 1 yr. 1 month |
| Simalak | 1 | 25 | 1 | 2 | 1 | 32 | 1 | 1 | 1 | 1 | 1 | 2 | 28 | 1 | 25 | 27.5 | 11 mos. |
| Kiniktal | 1 | 25 | 1 | 2 | 1 | 32 | 1 | 1 | 1 | 1 | 1 | 2 | 28 | 1 | 25 | 27.5 | 11 mos. |
| Bunai Bunai Tong | 1 | 25 | 1 | 2 | 1 | 32 | 1 | 1 | 1 | 1 | 1 | 2 | 28 | 1 | 25 | 27.5 | 10 mos. |
| Bunai – Bunai Lookan | 1 | 25 | 1 | 2 | 1 | 32 | 1 | 1 | 1 | 1 | 1 | 2 | 28 | 1 | 25 | 27.5 | 1 yr. 6 mos. |
| Tubig Dayang Riverside | 1 | 25 | 1 | 2 | 1 | 32 | 1 | 1 | 1 | 1 | 1 | 2 | 28 | 1 | 25 | 27.5 | 11 mos. |
| Tubig Dayang Center | 1 | 25 | 1 | 2 | 1 | 32 | 1 | 1 | 1 | 1 | 1 | 2 | 28 | 1 | 25 | 27.5 | 10 mos. |
| Tubig Dayang West | 1 | 25 | 1 | 2 | 1 | 32 | 1 | 1 | 1 | 1 | 1 | 2 | 28 | 1 | 25 | 27.5 | 10 mos. |
| Tanggah, Sapa-Sapa | 1 | 25 | 1 | 2 | 1 | 32 | 1 | 1 | 1 | 1 | 1 | 2 | 28 | 1 | 25 | 27.5 | 10 mos. |
| Lapid-lapid | 1 | 25 | 1 | 2 | 1 | 32 | 1 | 1 | 1 | 1 | 1 | 2 | 28 | 1 | 25 | 27.5 | 1 yr. 6 mos. |
| Tubig Dakula | 1 | 25 | 1 | 2 | 1 | 32 | 1 | 1 | 1 | 1 | 1 | 1 | 24 | 1 | 25 | 26.5 | 9 mos. |
| Dalo Dalo | 1 | 25 | 1 | 2 | 1 | 32 | 1 | 1 | 1 | 1 | 1 | 1 | 24 | 1 | 25 | 26.5 | 2 yrs. |

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|---------------------|-------|----|-------|-------|-------|----|-------|-------|-------|-------|-------|-------|-----|---|----|-----------|--|
| | C.1 | | C.2 | | | | C.3 | | | | | | C.4 | | | | |
| | | | C.2.1 | C.2.2 | C.2.3 | | C.3.1 | C.3.2 | C.3.3 | C.3.4 | C.3.5 | C.3.6 | | | | | |
| Lagasan | 1 | 25 | 1 | 2 | 1 | 32 | 1 | 1 | 1 | 1 | 1 | 1 | 24 | 1 | 25 | 26.5 | 2 yrs. |
| Basbas Proper | 1 | 25 | 1 | 2 | 1 | 32 | 1 | 1 | 1 | 1 | 1 | 1 | 24 | 1 | 25 | 26.5 | 11 mos. |
| Kamagong | 1 | 25 | 1 | 2 | 1 | 32 | 1 | 1 | 1 | 1 | 1 | 1 | 24 | 1 | 25 | 26.5 | 1 year |
| Paniongan | 1 | 25 | 1 | 2 | 1 | 32 | 1 | 1 | 1 | 1 | 1 | 1 | 24 | 1 | 25 | 26.5 | 1 yr. 5 mos. |
| Sunsang Latuan | 1 | 25 | 1 | 2 | 1 | 32 | 1 | 1 | 1 | 1 | 1 | 1 | 24 | 1 | 25 | 26.5 | 1 yr. 6 mos. |
| Sallangan | 1 | 25 | 1 | 2 | 1 | 32 | 1 | 1 | 1 | 1 | 1 | 1 | 24 | 1 | 25 | 26.5 | 8 mos. |
| Himbah | 1 | 25 | 1 | 2 | 1 | 32 | 1 | 1 | 1 | 1 | 1 | 1 | 24 | 1 | 25 | 26.5 | 11 mos. |
| Jakarta (Kualabaro) | 1 | 25 | 1 | 2 | 1 | 32 | 1 | 1 | 1 | 1 | 1 | 1 | 24 | 1 | 25 | 26.5 | 11 mos. |
| Tumahubong | 1 | 25 | 1 | 2 | 1 | 32 | 1 | 1 | 1 | 1 | 1 | 1 | 24 | 1 | 25 | 26.5 | 11 mos. |
| Dungon | 1 | 25 | 1 | 1 | 1 | 24 | 1 | 1 | 1 | 1 | 1 | 1 | 24 | 1 | 25 | 24.5 | 1 yr. 5 mos. |
| Ungus Ungus | 1 | 25 | 1 | 1 | 1 | 24 | 1 | 1 | 1 | 1 | 1 | 1 | 24 | 1 | 25 | 24.5 | 1 yr. 5 mos. |
| Lato - Lato | 1 | 25 | 1 | 1 | 1 | 24 | 1 | 1 | 1 | 1 | 1 | 1 | 24 | 1 | 25 | 24.5 | 1 yr. 5 mos. |
| Mandulan | 1 | 25 | 1 | 1 | 1 | 24 | 1 | 1 | 1 | 1 | 1 | 1 | 24 | 1 | 25 | 24.5 | 2 yrs. 2 mos. |
| Pababag | 1 | 25 | 1 | 1 | 1 | 24 | 1 | 1 | 1 | 1 | 1 | 1 | 24 | 1 | 25 | 24.5 | 2 yrs. 2 mos. |
| Tongsinah | 1 | 25 | 1 | 1 | 1 | 24 | 1 | 1 | 1 | 1 | 1 | 1 | 24 | 1 | 25 | 24.5 | 2 yrs. 2 mos. |
| Kulape | 1 | 25 | 1 | 1 | 1 | 24 | 1 | 1 | 1 | 1 | 1 | 1 | 24 | 1 | 25 | 24.5 | 1 yr. 1 month |
| North Tapian Bohe | 1 | 25 | 1 | 1 | 1 | 24 | 1 | 1 | 1 | 1 | 1 | 1 | 24 | 1 | 25 | 24.5 | 2 yrs. 1 month |
| Tambunan | 1 | 25 | 1 | 1 | 1 | 24 | 1 | 1 | 1 | 1 | 1 | 1 | 24 | 1 | 25 | 24.5 | 2 yrs. 1 month |
| Tabunan | 1 | 25 | 1 | 1 | 1 | 24 | 1 | 1 | 1 | 1 | 1 | 1 | 24 | 1 | 25 | 24.5 | 1 year |
| Lakit lakit | 1 | 25 | 1 | 1 | 1 | 24 | 1 | 1 | 1 | 1 | 1 | 1 | 24 | 1 | 25 | 24.5 | 2 yrs. 2 mos. |
| Sapaat | 1 | 25 | 1 | 1 | 1 | 24 | 1 | 1 | 1 | 1 | 1 | 1 | 24 | 1 | 25 | 24.5 | 2 yrs. 2 mos. |
| Buan | 1 | 25 | 1 | 1 | 1 | 24 | 1 | 1 | 1 | 1 | 1 | 1 | 24 | 1 | 25 | 24.5 | 1 yr. 5 mos. |

All Area 1 installations are battery charging stations

- Ten fast track barangays
- MUFTI organized barangays

PROVINCE OF SULU

| BARANGAY | Index | | | | | | | | | | | | | | | BCI Score | No. of Yrs. Established (as of July '04) |
|----------------|-------|----|-------|-------|-------|----|-------|-------|-------|-------|-------|-------|-----|---|----|-----------|--|
| | C.1 | | C.2 | | | | C.3 | | | | | | C.4 | | | | |
| | | | C.2.1 | C.2.2 | C.2.3 | | C.3.1 | C.3.2 | C.3.3 | C.3.4 | C.3.5 | C.3.6 | | | | | |
| Kahikukuk | 3 | 75 | 3 | 1 | 1 | 40 | 3 | 3 | 5 | 4 | 3 | 2 | 80 | 3 | 75 | 67.5 | 1 yr. 2 mos |
| Tinutungan | 3 | 75 | 3 | 1 | 1 | 40 | 3 | 2 | 3 | 3 | 3 | 2 | 64 | 3 | 75 | 63.5 | 1 yr. 4 mos |
| Sigumbal | 3 | 75 | 2 | 1 | 1 | 32 | 3 | 2 | 3 | 3 | 3 | 2 | 64 | 3 | 75 | 61.5 | 1 yr. 2 mos |
| Luuk Poblacion | 3 | 75 | 2 | 1 | 1 | 32 | 3 | 2 | 3 | 3 | 3 | 2 | 64 | 3 | 75 | 61.5 | 1 yr. 2 mos |
| Tabialan | 3 | 75 | 3 | 1 | 1 | 40 | 3 | 3 | 5 | 4 | 3 | 2 | 80 | 2 | 50 | 61.3 | 1 yr. 4 mos |
| South Paarol | 2 | 50 | 3 | 1 | 1 | 40 | 2 | 2 | 3 | 3 | 3 | 2 | 60 | 3 | 75 | 56.3 | 1 yr. 2 mos |
| Bakkaan | 2 | 50 | 2 | 2 | 1 | 40 | 2 | 2 | 4 | 3 | 3 | 1 | 60 | 3 | 75 | 56.3 | 1 yr. 2 mos |
| Bangalaw | 2 | 50 | 2 | 2 | 1 | 40 | 2 | 2 | 4 | 3 | 2 | 1 | 56 | 3 | 75 | 55.3 | 1 yr. 2 mos |
| Tattalan | 2 | 50 | 3 | 1 | 1 | 40 | 2 | 2 | 2 | 2 | 3 | 1 | 48 | 3 | 75 | 53.3 | 1 yr. 2 mos |
| Tambun-bubu | 2 | 50 | 1 | 2 | 1 | 32 | 2 | 1 | 2 | 2 | 3 | 1 | 44 | 3 | 75 | 50.3 | 1 yr. 4 mos |
| Danao | 2 | 50 | 1 | 2 | 1 | 32 | 2 | 1 | 2 | 2 | 1 | 1 | 36 | 3 | 75 | 48.3 | 1 yr. 2 mos |
| North Paarol | 2 | 50 | 3 | 1 | 1 | 40 | 2 | 2 | 3 | 2 | 3 | 1 | 52 | 2 | 50 | 48.0 | 1 yr. 2 mos |
| Tainga bakkao | 2 | 50 | 3 | 1 | 1 | 40 | 1 | 2 | 2 | 2 | 3 | 2 | 48 | 2 | 50 | 47.0 | 1 yr. 4 mos |
| Duggo | 2 | 50 | 1 | 1 | 1 | 24 | 1 | 1 | 2 | 2 | 4 | 1 | 44 | 2 | 50 | 42.0 | 1 yr. 5 mos |
| Siolakan | 2 | 50 | 1 | 1 | 1 | 24 | 1 | 1 | 2 | 2 | 4 | 1 | 44 | 2 | 50 | 42.0 | 1 yr. 5 mos |
| Bakud | 2 | 50 | 1 | 1 | 1 | 24 | 1 | 1 | 2 | 2 | 4 | 1 | 44 | 2 | 50 | 42.0 | 1 yr. 5 mos |
| Duhol Tara | 2 | 50 | 1 | 1 | 1 | 24 | 1 | 1 | 2 | 2 | 4 | 1 | 44 | 1 | 25 | 35.8 | 1 yr. 5 mos |
| Latung | 2 | 50 | 1 | 1 | 1 | 24 | 1 | 1 | 2 | 1 | 4 | 1 | 40 | 1 | 25 | 34.8 | 1 yr. 5 mos |
| North Silumpak | 2 | 50 | 1 | 1 | 1 | 24 | 1 | 1 | 1 | 1 | 2 | 1 | 28 | 1 | 25 | 31.8 | 1 yr. 4 mos |
| South Silumpak | 2 | 50 | 1 | 1 | 1 | 24 | 1 | 1 | 1 | 1 | 2 | 1 | 28 | 1 | 25 | 31.8 | 1 yr. 4 mos |
| Ipil | 2 | 50 | 1 | 1 | 1 | 24 | 1 | 1 | 1 | 1 | 2 | 1 | 28 | 1 | 25 | 31.8 | no data |
| North Manta | 2 | 50 | 1 | 1 | 1 | 24 | 1 | 1 | 1 | 1 | 2 | 1 | 28 | 1 | 25 | 31.8 | 1 yr. 5 mos |

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PROVINCE OF BASILAN

| BARANGAY | Index | | | | | | | | | | | | | | | BCI Score | No. of Yrs. | |
|------------------|-------|----|-------|-------|-------|----|-------|-------|-------|-------|-------|-------|-----|---|-----|-----------|-------------|------------------|
| | C.1 | | C.2 | | | | C.3 | | | | | | C.4 | | | | Established | (as of July '04) |
| | | | C.2.1 | C.2.2 | C.2.3 | | C.3.1 | C.3.2 | C.3.3 | C.3.4 | C.3.5 | C.3.6 | | | | | | |
| Lanawan | 2 | 50 | 3 | 3 | 1 | 56 | 2 | 3 | 3 | 4 | 2 | 2 | 64 | 4 | 100 | 67.5 | 1 yr. 7 mos | 23.0 |
| Lampinigan | 2 | 50 | 3 | 2 | 2 | 56 | 3 | 2 | 4 | 3 | 3 | 2 | 68 | 3 | 75 | 62.3 | 2 yr. 7 mos | 24.0 |
| Sulloh | 2 | 50 | 2 | 1 | 1 | 32 | 2 | 2 | 3 | 3 | 2 | 1 | 52 | 3 | 75 | 52.3 | 1 yr. 8 mos | 25.0 |
| Lower Cabengbeng | 2 | 50 | 2 | 2 | 1 | 40 | 1 | 2 | 2 | 2 | 2 | 2 | 44 | 3 | 75 | 52.3 | 1 yr. 5 mos | 26.0 |
| Tong-Umos | 2 | 50 | 2 | 1 | 1 | 32 | 2 | 2 | 3 | 2 | 2 | 1 | 48 | 3 | 75 | 51.3 | 1 yr. 8 mos | 27.0 |
| Sangbay Small | 2 | 50 | 2 | 2 | 1 | 40 | 2 | 2 | 4 | 3 | 2 | 2 | 60 | 2 | 50 | 50.0 | 1 yr. 7 mos | 28.0 |
| Suligan | 2 | 50 | 2 | 2 | 1 | 40 | 3 | 2 | 3 | 3 | 2 | 1 | 56 | 2 | 50 | 49.0 | 1 yr. 8 mos | 29.0 |
| Sangbay Big | 2 | 50 | 3 | 1 | 1 | 40 | 1 | 2 | 2 | 2 | 3 | 2 | 48 | 2 | 50 | 47.0 | 1 yr. 7 mos | 30.0 |
| Camamburingan | 2 | 50 | 2 | 2 | 1 | 40 | 2 | 2 | 3 | 3 | 3 | 3 | 64 | 1 | 25 | 44.8 | 1 yr. 7 mos | 31.0 |
| Bato Mapoteh | 2 | 50 | 2 | 2 | 1 | 40 | 2 | 2 | 3 | 2 | 3 | 2 | 56 | 1 | 25 | 42.8 | 1 yr. 7 mos | 32.0 |
| Luuk Visaya | 2 | 50 | 3 | 1 | 1 | 40 | 2 | 2 | 3 | 3 | 2 | 2 | 56 | 1 | 25 | 42.8 | 1 yr. 7 mos | 33.0 |
| Kaumpornah | 2 | 50 | 2 | 2 | 1 | 40 | 2 | 2 | 3 | 3 | 2 | 1 | 52 | 1 | 25 | 41.8 | 1 yr. 8 mos | 34.0 |
| Sulutan Matangal | 2 | 50 | 1 | 1 | 1 | 24 | 2 | 2 | 2 | 2 | 1 | 1 | 40 | 2 | 50 | 41.0 | 1 yr. 4 mos | 35.0 |
| Basakan | 2 | 50 | 1 | 1 | 1 | 24 | 2 | 2 | 2 | 2 | 1 | 1 | 40 | 2 | 50 | 41.0 | 1 yr. 4 mos | 36.0 |
| Bukut-Umos | 2 | 50 | 3 | 1 | 1 | 40 | 2 | 2 | 2 | 2 | 2 | 2 | 48 | 1 | 25 | 40.8 | 1 yr. 8 mos | 37.0 |
| Sangkahan | 2 | 50 | 2 | 1 | 1 | 32 | 2 | 2 | 2 | 3 | 2 | 2 | 52 | 1 | 25 | 39.8 | 1 yr. 7 mos | 38.0 |
| Mananggal | 2 | 50 | 2 | 2 | 1 | 40 | 2 | 2 | 2 | 2 | 2 | 1 | 44 | 1 | 25 | 39.8 | 1 yr. 7 mos | 39.0 |
| Tambulig-Buton | 1 | 25 | 2 | 1 | 1 | 32 | 2 | 2 | 3 | 2 | 2 | 1 | 48 | 2 | 50 | 38.8 | 1 yr. 8 mos | 40.0 |
| Balanting | 1 | 25 | 2 | 1 | 1 | 32 | 2 | 2 | 3 | 2 | 2 | 1 | 48 | 2 | 50 | 38.8 | 1 yr. 7 mos | 41.0 |
| Saluping | 1 | 25 | 2 | 1 | 1 | 32 | 2 | 2 | 3 | 2 | 2 | 1 | 48 | 2 | 50 | 38.8 | 1 yr. 8 mos | 42.0 |
| Baluk-Baluk | 2 | 50 | 2 | 2 | 1 | 40 | 1 | 2 | 2 | 1 | 2 | 1 | 36 | 1 | 25 | 37.8 | 1 yr. 7 mos | 43.0 |
| Linungan | 2 | 50 | 2 | 1 | 1 | 32 | 2 | 2 | 2 | 2 | 2 | 1 | 44 | 1 | 25 | 37.8 | 1 yr. 7 mos | 44.0 |
| Sibago | 2 | 50 | 2 | 1 | 1 | 32 | 2 | 2 | 2 | 2 | 1 | 1 | 40 | 1 | 25 | 36.8 | 1 yr. 7 mos | 45.0 |
| Pisak-Pisak | 2 | 50 | 1 | 1 | 1 | 24 | 1 | 2 | 2 | 2 | 1 | 2 | 40 | 1 | 25 | 34.8 | 1 yr. 7 mos | 46.0 |
| Bolloh-Bolloh | 2 | 50 | 1 | 1 | 1 | 24 | 1 | 2 | 1 | 2 | 1 | 1 | 32 | 1 | 25 | 32.8 | 1 yr. 8 mos | 47.0 |

PROVINCE OF ZAMBOANGA SIBUGAY

| BARANGAY | Index | | | | | | | | | | | | | | BCI Score | No. of Yrs. Established (as of July '04) | |
|-----------------|-------|----|-------|-------|-------|----|-------|-------|-------|-------|-------|-------|-----|---|-----------|--|---------|
| | C.1 | | C.2 | | | | C.3 | | | | | | C.4 | | | | |
| | | | C.2.1 | C.2.2 | C.2.3 | | C.3.1 | C.3.2 | C.3.3 | C.3.4 | C.3.5 | C.3.6 | | | | | |
| Tigbucay | 2 | 50 | 2 | 1 | 1 | 32 | 11 | 1 | 2 | 4 | 1 | 2 | 84 | 1 | 25 | 47.75 | 10 mos. |
| Tigtabon | 2 | 50 | 2 | 1 | 1 | 32 | 2 | 2 | 2 | 2 | 2 | 2 | 48 | 1 | 25 | 38.75 | 1 year |
| Manalipa | 2 | 50 | 2 | 1 | 1 | 32 | 2 | 2 | 2 | 3 | 2 | 1 | 48 | 1 | 25 | 38.75 | 11 mos. |
| Tumalutab | 2 | 50 | 2 | 1 | 1 | 32 | 1 | 2 | 2 | 3 | 2 | 1 | 44 | 1 | 25 | 37.75 | 11 mos. |
| New Canaan | 2 | 50 | 1 | 1 | 1 | 24 | 1 | 1 | 4 | 1 | 2 | 1 | 40 | 1 | 25 | 34.75 | 10 mos. |
| Magsaysay | 2 | 50 | 1 | 1 | 1 | 24 | 1 | 1 | 4 | 1 | 2 | 1 | 40 | 1 | 25 | 34.75 | 9 mos. |
| Remedios | 2 | 50 | 1 | 1 | 1 | 24 | 1 | 1 | 4 | 1 | 1 | 1 | 36 | 1 | 25 | 33.75 | 9 mos. |
| Pulo Laum | 2 | 50 | 1 | 1 | 2 | 32 | 1 | 1 | 1 | 1 | 2 | 1 | 28 | 1 | 25 | 33.75 | 9 mos. |
| Little Margos | 2 | 50 | 1 | 1 | 1 | 24 | 1 | 1 | 4 | 1 | 1 | 1 | 36 | 1 | 25 | 33.75 | no data |
| Kapatagan | 2 | 50 | 1 | 1 | 1 | 24 | 1 | 1 | 3 | 1 | 2 | 1 | 36 | 1 | 25 | 33.75 | 10 mos. |
| Fatima | 2 | 50 | 1 | 1 | 1 | 24 | 1 | 1 | 3 | 1 | 2 | 1 | 36 | 1 | 25 | 33.75 | 9 mos. |
| Silal | 2 | 50 | 1 | 1 | 1 | 24 | 1 | 1 | 2 | 1 | 1 | 1 | 28 | 1 | 25 | 31.75 | 6 mos. |
| Prinsesa Sumama | 2 | 50 | 1 | 1 | 1 | 24 | 1 | 1 | 2 | 1 | 1 | 1 | 28 | 1 | 25 | 31.75 | 9 mos. |
| Agutayan | 2 | 50 | 1 | 1 | 1 | 24 | 1 | 1 | 2 | 1 | 1 | 1 | 28 | 1 | 25 | 31.75 | 10 mos. |
| La Paz | 2 | 50 | 1 | 1 | 1 | 24 | 1 | 1 | 1 | 1 | 1 | 1 | 24 | 1 | 25 | 30.75 | no data |
| Pangapuyan | 1 | 25 | 2 | 1 | 1 | 32 | 1 | 2 | 1 | 2 | 1 | 2 | 36 | 1 | 25 | 29.5 | 11 mos. |
| Looc Labuan | 1 | 25 | 1 | 1 | 1 | 24 | 1 | 1 | 1 | 2 | 1 | 2 | 32 | 1 | 25 | 26.5 | 9 mos. |
| Villa Gracia | 1 | 25 | 1 | 1 | 1 | 24 | 1 | 1 | 1 | 1 | 1 | 1 | 24 | 1 | 25 | 24.5 | 9 mos. |
| Pulo Mabao | 1 | 25 | 1 | 1 | 1 | 24 | 1 | 1 | 1 | 1 | 1 | 1 | 24 | 1 | 25 | 24.5 | 9 mos. |
| Kauswagan | 1 | 25 | 1 | 1 | 1 | 24 | 1 | 1 | 1 | 1 | 1 | 1 | 24 | 1 | 25 | 24.5 | 6 mos. |

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 Solar Home System
 Battery Charging Station

| BARANGAYS | Index | | | | | | | | | | | | | | BCI Score | No. of Yrs. Established (as of July '04) | | |
|-----------|--------------------------------|---|-------|-------|-------|---|-------|-------|-------|-------|-------|-------|-----|----|-----------|--|-------|--------------|
| | C.1 | | C.2 | | | | C.3 | | | | | | C.4 | | | | | |
| | | | C.2.1 | C.2.2 | C.2.3 | | C.3.1 | C.3.2 | C.3.3 | C.3.4 | C.3.5 | C.3.6 | | | | | | |
| 1 | Kalian | 2 | 50 | 3 | 4 | 3 | 80 | 3 | 2 | 3 | 3 | 3 | 2 | 64 | 4 | 100 | 73.5 | 8 mos. |
| 2 | Klubi | 3 | 75 | 3 | 3 | 2 | 64 | 2 | 4 | 4 | 3 | 3 | 2 | 72 | 3 | 75 | 71.5 | 4 mos. |
| 3 | Chua | 2 | 50 | 3 | 4 | 2 | 72 | 3 | 2 | 3 | 4 | 1 | 2 | 60 | 4 | 100 | 70.5 | 6 mos. |
| 4 | Sitio Lam-alis, Bgy. Datalblao | 2 | 50 | 3 | 3 | 2 | 64 | 1 | 2 | 4 | 3 | 3 | 1 | 56 | 4 | 100 | 67.5 | 1 yr. 7 mos. |
| 5 | Lao-Lao | 2 | 50 | 2 | 3 | 3 | 64 | 2 | 4 | 4 | 3 | 2 | 2 | 68 | 3 | 75 | 64.25 | 9 mos. |
| 6 | Tumbao | 2 | 50 | 3 | 3 | 2 | 64 | 3 | 2 | 3 | 3 | 3 | 2 | 64 | 3 | 75 | 63.25 | 10 mos. |
| 7 | Saloy | 2 | 50 | 2 | 3 | 3 | 64 | 1 | 1 | 3 | 3 | 2 | 2 | 48 | 3 | 75 | 59.25 | 9 mos. |
| 8 | Katualan | 2 | 50 | 3 | 2 | 1 | 48 | 2 | 1 | 2 | 1 | 1 | 1 | 32 | 4 | 100 | 57.5 | 5 mos. |
| 9 | Panosolen | 2 | 50 | 2 | 1 | 2 | 40 | 2 | 3 | 5 | 2 | 2 | 2 | 64 | 3 | 75 | 57.25 | |
| 10 | Bantol | 2 | 50 | 2 | 2 | 3 | 56 | 2 | 2 | 3 | 2 | 1 | 1 | 44 | 3 | 75 | 56.25 | 9 mos. |
| 11 | Kalumanga | 2 | 50 | 1 | 1 | 1 | 24 | 1 | 1 | 1 | 4 | 2 | 2 | 44 | 4 | 100 | 54.5 | 1 yr. 5 mos. |
| 12 | Bulod | 2 | 50 | 1 | 1 | 2 | 32 | 1 | 2 | 3 | 2 | 3 | 3 | 56 | 3 | 75 | 53.25 | 1 yr. 7 mos. |
| 13 | Talitay | 2 | 50 | 2 | 2 | 2 | 48 | 2 | 2 | 2 | 2 | 3 | 2 | 52 | 2 | 50 | 50 | 8 mos. |
| 14 | Dalag | 1 | 25 | 2 | 2 | 1 | 40 | 3 | 2 | 4 | 3 | 1 | 2 | 60 | 3 | 75 | 50 | 5 mos. |
| 15 | Mao | 2 | 50 | 2 | 1 | 2 | 40 | 1 | 2 | 2 | 2 | 2 | 2 | 44 | 2 | 50 | 46 | 8 mos. |
| 16 | Magsaysay | 2 | 50 | 1 | 2 | 2 | 40 | 2 | 2 | 2 | 2 | 1 | 2 | 44 | 2 | 50 | 46 | 8 mos. |
| 17 | Mangadeq | 2 | 50 | 2 | 1 | 1 | 32 | 1 | 2 | 2 | 2 | 2 | 2 | 44 | 2 | 50 | 44 | 8 mos. |
| 18 | Napok | 2 | 50 | 2 | 1 | 1 | 32 | 1 | 2 | 2 | 1 | 1 | 2 | 36 | 2 | 50 | 42 | 1 yr. 8 mos. |
| 19 | Puya | 2 | 50 | 2 | 1 | 1 | 32 | 1 | 1 | 2 | 1 | 2 | 2 | 36 | 2 | 50 | 42 | 7 mos. |
| 20 | Paitan | 2 | 50 | 1 | 1 | 2 | 32 | 1 | 1 | 2 | 2 | 2 | 1 | 36 | 2 | 50 | 42 | 8 mos. |
| 21 | Tuka na Luqong | 2 | 50 | 2 | 1 | 1 | 32 | 1 | 2 | 3 | 1 | 1 | 1 | 36 | 2 | 50 | 42 | |
| 22 | Madanding | 2 | 50 | 2 | 1 | 1 | 32 | 1 | 2 | 3 | 1 | 1 | 1 | 36 | 2 | 50 | 42 | |
| 23 | Bayasong | 1 | 25 | 1 | 2 | 2 | 40 | 2 | 3 | 3 | 2 | 2 | 1 | 52 | 2 | 50 | 41.75 | 9 mos. |
| 24 | Magwawa | 1 | 25 | 1 | 2 | 1 | 32 | 3 | 2 | 4 | 3 | 1 | 2 | 60 | 2 | 50 | 41.75 | 5 mos. |
| 25 | Mamali | 1 | 25 | 1 | 2 | 1 | 32 | 2 | 3 | 3 | 3 | 2 | 1 | 56 | 2 | 50 | 40.75 | 9 mos. |
| 26 | Tenok | 2 | 50 | 1 | 1 | 1 | 24 | 1 | 2 | 2 | 1 | 1 | 1 | 32 | 2 | 50 | 39 | |
| 27 | Kulasi | 2 | 50 | 1 | 1 | 1 | 24 | 1 | 3 | 4 | 1 | 2 | 3 | 56 | 1 | 25 | 38.75 | 8 mos. |
| 28 | Daladap | 1 | 25 | 2 | 1 | 1 | 32 | 1 | 2 | 3 | 2 | 2 | 2 | 48 | 2 | 50 | 38.75 | |
| 29 | Sumakubay | 2 | 50 | 1 | 1 | 2 | 32 | 2 | 2 | 3 | 2 | 1 | 1 | 44 | 1 | 25 | 37.75 | 1 yr. 7 mos. |
| 30 | Maindang | 1 | 25 | 1 | 2 | 1 | 32 | 2 | 1 | 2 | 1 | 1 | 1 | 32 | 2 | 50 | 34.75 | 9 mos. |
| 31 | Palao sa Buto | 2 | 50 | 1 | 2 | 1 | 32 | 2 | 1 | 2 | 1 | 1 | 1 | 32 | 1 | 25 | 34.75 | |
| 32 | Lepok | 1 | 25 | 1 | 1 | 1 | 24 | 1 | 1 | 3 | 2 | 2 | 1 | 40 | 2 | 50 | 34.75 | |
| 33 | Lepak | 2 | 50 | 1 | 1 | 1 | 24 | 1 | 2 | 2 | 1 | 1 | 1 | 32 | 1 | 25 | 32.75 | |
| 34 | Tugal | 2 | 50 | 1 | 1 | 1 | 24 | 1 | 1 | 2 | 1 | 1 | 1 | 28 | 1 | 25 | 31.75 | |
| 35 | Tonggol | 1 | 25 | 1 | 2 | 1 | 32 | 1 | 2 | 1 | 1 | 1 | 2 | 32 | 1 | 25 | 28.5 | 10 mos. |
| 36 | Baganihan | 1 | 25 | 2 | 1 | 2 | 40 | 1 | 1 | 1 | 1 | 1 | 1 | 24 | 1 | 25 | 28.5 | 9 mos. |
| 37 | Bagumbong | 1 | 25 | 2 | 1 | 1 | 32 | 1 | 1 | 2 | 1 | 1 | 1 | 28 | 1 | 25 | 27.5 | |
| 38 | Dungengen | 1 | 25 | 2 | 1 | 1 | 32 | 1 | 1 | 2 | 1 | 1 | 1 | 28 | 1 | 25 | 27.5 | |








Micro hydro sites
 Solar home systems
 Battery Charging Stations

| Level | Area 1 | Area 2 | Area 3 | |
|------------------------|-----------------------|------------------------|-----------------|-----------|
| Level 1: 63 BRECDAS | Early phase (1-15) | | | |
| | Late phase (16-33) | Silubbog | North Silumpak | Lepak |
| | | Basbas Likud | South Silumpak | Tugal |
| | | Tumbagaan | Ipil | Tonggol |
| | | Sidalling (Kalupag) | North Manta | Bagumbong |
| | | Pampang, Tabawan | Bolloh-Bolloh | Dungengen |
| | | Malanta | Silal | Baganihan |
| | | South Tapian Bohe | Prinsesa Sumama | |
| | | Balimbing | Agutayan | |
| | | Laud, Tabawan | La Paz | |
| | | Tarawakan | Pangapuyan | |
| | | Simalak | Looc Labuan | |
| | | Kiniktal | Villa Gracia | |
| | | Bunai Bunai Tong | Pulo Mabao | |
| | | Bunai – Bunai Lookan | Kauswagan | |
| | | Tubig Dayang Riverside | | |
| | | Tubig Dayang Center | | |
| | | Tubig Dayang West | | |
| | | Tangngah, Sapa-Sapa | | |
| | | Lapid-lapid | | |
| | | Tubig Dakula | | |
| | | Dalo Dalo | | |
| | | Lagasan | | |
| | | Basbas Proper | | |
| | | Kamagong | | |
| | | Paniongan | | |
| | | Sunsang Latuan | | |
| | | Sallangan | | |
| | | Himbah | | |
| | | Jakarta (Kualabaro) | | |
| | | 63 Tumahubong | | |
| | | Dungon | | |
| | | Ungus Ungus | | |
| | | Lato - Lato | | |
| | Mandulan | | | |
| | Pababag | | | |
| | Tongsinah | | | |
| | Kulape | | | |
| | North Tapian Bohe | | | |
| | Tambunan | | | |
| | Tabunan | | | |
| | Lakit lakit | | | |
| | Sapaat | | | |
| Buan | | | | |
| TOTAL: 43 | TOTAL: 14 | TOTAL: 6 | | |

| Level | | Area 1 | Area 2 | Area 3 |
|----------------------|------------------------|------------------|------------------|----------------|
| Level 2: 95 bgys. | Early phase (34-49) | Butun, Tandubas | Latung | Mao |
| | | Tondon | Danao | Mangadeg |
| | | Lookan Latuan | North Paarol | Napok |
| | | Butun, Sapa-Sapa | Tainga bakkao | Puya |
| | | Darol Akram | Duggo | Paitan |
| | | Darussalam | Siolakan | Tuka na Lugong |
| | | Look Nato | Bakud | Maranding |
| | | Tanggah, Tabawan | Duhol Tara | Tenok |
| | | Sumangat | Suligan | Kulasi |
| | | Parang Pantay | Sangbay Big | Daladap |
| | | Sokah Sokah | Camamburingan | Sumakubay |
| | | Lookan Banaran | Bato Mapoteh | Palao sa Buto |
| | | Basnunuk | Luuk Visaya | Lepok |
| | | Palate | Kaumpornah | Magwawa |
| | | Sumangday | Sulitan Matangal | Magsaysay |
| | | Karaha | Basakan | Bayasong |
| | 95 | | Bukut-Umos | Mamali |
| | | | Sangkahan | Maindang |
| | | | Mananggal | |
| | | | Tambulig-Buton | |
| | | | Balanting | |
| | | | Saluping | |
| | | | Baluk-Baluk | |
| | | | Linungan | |
| | | | Sibago | |
| | | | Pisak-Pisak | |
| | | | Tigbucay | |
| | | | Tigtabon | |
| | | | Manalipa | |
| | | | Tumalutab | |
| | 71 | | New Canaan | |
| | | | Magsaysay | |
| | | | Remedios | |
| | | | Pulo Laum | |
| | | | Little Margos | |
| | | | Kapatagan | |
| | | | Fatima | |
| | | | TOTAL: 16 | TOTAL: 37 |
| | Late phase (50-66) | | Tinutungan | Lao-Lao |
| | | | Sigumbal | Tumbao |
| | | Luuk Poblacion | Saloy | |
| | | Tabialan | Katualan | |
| | | South Paarol | Panosolen | |
| | | Bakkaan | Bantol | |
| | | Bangalaw | Kalumanga | |
| | | Tattalan | Bulod | |
| | | Tambun-bubu | Talitay | |
| | | Lampinigan | Dalag | |
| | | Sulloh | | |
| | | Lower Cabengbeng | | |
| | | Tong-Umos | | |
| | | Sangbay Small | | |
| | TOTAL: 14 | TOTAL: 10 | | |

| Level | | Area 1 | Area 2 | Area 3 |
|---------------------|--------------------|--------------|-----------|-------------------------------|
| Level 3: 10 bgys | Phaseout 67-100 | Tapian Sokah | Kahikukuk | Kalian |
| | | Pamasan | Lanawan | Klubi |
| | | Kepeng | | Chua |
| | | Pagatpat | | Sitio Lam-alis, Bgy. Datablao |
| | | TOTAL: 4 | TOTAL: 2 | TOTAL: 4 |

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| | |
|---|----------------|
|  | Sulu |
|  | Basilan |
|  | Sibugay |
|  | Maguindanao |
|  | Sultan Kudarat |
|  | Davao City |
|  | South Cotabato |

number of BRECDAs: 168 168

ANNEX G. PRODUCTIVE-USE RE PROJECTS INFORMATION MATRIX

| Productive-use RE Project | Locations | Partner Entity/ies | Expected # of Beneficiaries | Status |
|---|--|---|--|-----------------------|
| <i>Lowland</i> | | | | |
| a. Integrated Grains Dryer and Micro-mill Project | Kalumanga, Datu Paglas, Maguin-danao | Philippine Rice Research Institute (Philrice) | 80 (30 BRECDA members + 50 more non-BREC-DA members) | Turned-over to BRECDA |
| <i>Lowland and Upland</i> | | | | |
| b. Integrated Corn Mill Project | 1. Saloy, Calinan, Davao City | | 255 households | Turned-over to BRECDA |
| | 2. Sitio Lam-alis, Datalblao, Columbio, Sultan Kudarat | | 120 households | Turned-over to BRECDA |
| | 3. Chua, Bagumbayan, Sultan Kudarat | | 137 households | Turned-over to BRECDA |
| c. Training and Demonstration on High Value Vegetable Production (with solar PV drip irrigation system) | Brgy. Bayasong, Lutayan, Sultan Kudarat | | 30 households | Turned-over to BRECDA |
| <i>Coastal</i> | | | | |
| d. Marine Products Quality Enhancement | Pababag, Bongao, Tawi-Tawi | Bureau of Postharvest Research and Extension (BPRE) | 21 households in Pababag and 10 other families in nearby barangays | Turned-over to BRECDA |
| e. Training and Demonstration on Lapu-Lapu Fattening with the aid of RE system | 1. Lampinigan, Basilan | | 30 households | Turned-over to BRECDA |
| | 2. Manalipa, Zamboanga City | | 30 households | Turned-over to BRECDA |
| | 3. Pangapuyan, Zamboanga City | | 30 households | Turned-over to BRECDA |

ANNEX H. SOCIAL RE PROJECTS INFORMATION MATRIX

| RE-powered Social Projects | Locations | Partner Entity/ies | Expected # of Beneficiaries | Status |
|---|--|---|---|--|
| a. Educational Television | 1. Tigtabon, Zamboanga City | ABS-CBN E-media | 607 students | Turned-over to the school but will be managed by the Tigtabon BRECDA |
| | 2. Pangapuyan, Zamboanga City | ABS-CBN E-media | | Turned-over to the school but will be managed by the BRECDA |
| | 3. Sitio Sinagandal, Chua, Bagumbayan, Sultan Kudarat | ABS-CBN E-media | 117 students | Turned-over to the school but will be managed by the BRECDA |
| b. SMART Talk 'N Text Public Calling Office | 1. Napok, Datu Paglas, Maguindanao | SMART Communications | 195 households | Turned-over to the BRECDA operator |
| | 2. Sumakubay, SK Pendatun, Sultan Kudarat | SMART Communications | 333 households | Turned-over to the BRECDA operator |
| | 3. Lao-lao, SK Pendatun, Sultan Kudarat | SMART Communications | 333 households | Turned-over to the BRECDA operator |
| | 4. Kalian, Buluan, Maguindanao | SMART Communications | 333 households | Turned-over to the BRECDA operator |
| | 5. Sitio Lam-alis, Datalblao, Columbio, Sultan Kudarat | SMART Communications | 166 households | Turned-over to the BRECDA operator |
| c. Computer Center | Saloy, Calinan, Davao City | Dept. of Science and Technology Region XI | 24 teachers, cooperative and barangay leaders | Turned-over to the BRECDA/ local cooperative |
| d. Cinesaloy | Saloy, Calinan, Davao City | Dream Satellite and Solar Electric Co. | 155 households | Turned-over to the BRECDA/local cooperative |
| e. IBM Kidsmart Learning Center | Sitio Lam-alis, Datalblao, Columbio, Sultan Kudarat | IBM Philippines | 195 students | Turned-over to Lam-alis Elementary School; managed by the BRECDA |

ANNEX I. NON-RE INCOME-GENERATING AND SOCIAL PROJECTS

| Non-RE Income-generating and Social Projects | Locations | Partner Entity/ies | Expected # of Beneficiaries | Status |
|---|---|--|-----------------------------|-----------------------|
| <i>Income-generating projects</i> | | | | |
| a. Training and trial planting of lantay method of growing seaweeds | 1. Saluping Proper, Sumisip Basilan | Bureau of Postharvest Research and Extension (BPRE) | | Turned-over to BRECDA |
| | 2. Balanting, Sumisip, Basilan | | | Turned-over to BRECDA |
| | 3. Pisak-Pisak, Sumisip, Basilan | Quedan and Rural Credit Guarantee Corporation (Quedancor) | 180 | Turned-over to BRECDA |
| | 4. Bukot-umos, Sumisip, Basilan | MCPI Corporation | | Turned-over to BRECDA |
| | 5. Tong-umos, Sumisip, Basilan | | | Turned-over to BRECDA |
| | 6. Tambulig Buton, Sumisip, Basilan | | | Turned-over to BRECDA |
| | 7. Kahikukuk, Tongkil, Sulu | | | Turned-over to BRECDA |
| | 8. Sigumbal, Tongkil, Sulu | | | Turned-over to BRECDA |
| | 9. Luuk Poblacion, Tongkil, Sulu | | 180 | Turned-over to BRECDA |
| | 10. South Paarol, Tongkil, Sulu | | | Turned-over to BRECDA |
| | 11. Tabialan, Tongkil, Sulu | | | Turned-over to BRECDA |
| | 12. Bakaan, Tongkil, Sulu | | | Turned-over to BRECDA |
| | 13. Duggo, Siasi, Sulu | | | Turned-over to BRECDA |
| | 14. North Manta, Siasi, Sulu | | | Turned-over to BRECDA |
| | 15. Bakkud, Siasi, Sulu | | | Turned-over to BRECDA |
| | 16. Siolakan, Siasi, Sulu | | 210 | Turned-over to BRECDA |
| | 17. Latung, Siasi, Sulu | | | Turned-over to BRECDA |
| | 18. Ipil, Siasi, Sulu | | | Turned-over to BRECDA |
| | 19. Duhul Tara, Siasi, Sulu | | | Turned-over to BRECDA |
| | 20. Pulo-Laum, Olutanga, Zamboanga Sibugay | | 30 | Turned-over to BRECDA |
| | 21. Tungawan, R.T. Lim , Zamboanga Sibugay | | 60 | Turned-over to BRECDA |
| | 22. Alicia, R.T. Lim, Zamboanga Sibugay | | | Turned-over to BRECDA |
| | 23. Pangapuyan, Zamboanga City | | 60 | Turned-over to BRECDA |
| | 24. Tigtabon, Zamboanga City | | | Turned-over to BRECDA |
| b. Training and Demonstration on High Value Vegetable Production | 1. Lao-lao, SK Pendatun, Maguin- danao | | | Turned-over to BRECDA |
| | 2. Sumakubay, SK Pendatun, Maguindanao | | | Turned-over to BRECDA |
| | 3. Napok, Datu Paglas, Maguin- | | | Turned-over to BRECDA |

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|---|--|-------------------------|----------------|-----------------------|
| | danao | | | |
| | 4. Panosolen, SK Pendatun, Maguindanao | | | Turned-over to BRECDA |
| | 5. Kalumenga, Datu Paglas, Maguindanao | East West Seed Company | | Turned-over to BRECDA |
| | 6. Sitio Lam-alis, Datalblao, Co- umbio, Sultan Kudarat | | 250 | Turned-over to BRECDA |
| | 7. Saloy, Calinan, Davao City | | | Turned-over to BRECDA |
| | 8. Mamali, Lutayan, Sultan Kuda- rat | | | Turned-over to BRECDA |
| | 9. Maindang, Lutayan, Sultan Kudarat | | | Turned-over to BRECDA |
| | 10. Chua, Bagumbayan, Sultan Kudarat | | | Turned-over to BRECDA |
| | | | | |
| c. Seaweeds semi-processing Project | 1. Lakit-lakit, Sapa-Sapa, Tawi- Tawi | | | |
| | 2. North Tapian Bohe, Sapa-Sapa, Tawi-Tawi | | | |
| | 3. South Tapian Bohe, Sapa-Sapa, Tawi-Tawi | | | |
| | 5. Sapaat | | | |
| | 6. Tambunan | | | |
| | | | | |
| d. BRECDA Cassava Processing project | Sumangat, Bongao, Tawi-Tawi | | 30 households | Turned-over to BRECDA |
| | | | | |
| | | | | |
| Social Projects | | | | |
| e. Potable water system | Chua, Bagumbayan, Sultan Kudarat | Japan Embassy in Manila | 199 households | Turned-over to BRECDA |
| | | | | |
| f. Rainwater catchment | Tigtabon, Zamboanga City | | 75 households | Turned-over to BRECDA |

ANNEX J. PARTNERS INFORMATION MATRIX

| Partner Name | Organization/Company Profile |
|---|---|
| United States Agency for International Development | <p>USAID is the U.S. government's official foreign assistance agency that in February 2002 signed a Cooperative Agreement with Winrock International to establish the AMORE Program, in support of the Philippine government's goal of total barangay electrification in 2008 and of its peace initiatives in Mindanao. USAID funds principally support AMORE's community organizing activities, which are meant to maximize the prospects for the sustainability of the Program's results. In October 2004, USAID signed another Cooperative Agreement with Winrock that extended the AMORE Program to another five years.</p> <p>To promote the Philippines' development, USAID has been implementing aggressive, broad-ranging activities in the country's poorest provinces in its southernmost island of Mindanao. These activities aim to improve the business climate in the region and make its economic growth more equitable, reintegrate former combatants into the economy, and promote the use of environmentally friendly renewable energy systems. All of these goals are addressed by the AMORE program. Other USAID programs in Mindanao seek to strengthen local government units and address population and health problems.</p> |
| Mirant Philippines | <p>The Mirant Philippines Foundation is the corporate social responsibility (CSR) arm of the country's largest energy producer, Mirant Philippines. USAID's biggest private-sector partner to date, it is part of the AMORE Implementation Team that plans the roadmap for the project. Mirant is also AMORE's biggest funder of RE systems under its Php 1.5-billion Project BEACON (Barangay Electrification Assistance for Countryside Development), by far the Philippines' biggest CSR project, which is energizing 1,500 barangays all over the country both with grid and RE systems. Mirant has already provided solar photovoltaic systems worth over Php 100 million under AMORE and will fund more systems for the Program's next five years. It is also strongly supporting the Program's sustainability and peace promotion efforts.</p> |
| Department of Energy | <p>The DOE, with the Autonomous Region in Muslim Mindanao, represents the Philippine government in the AMORE Implementation Team. Its rural electrification policies guide the AMORE Program in its fulfillment of its mandate, aside from DOE being the first clearinghouse of all barangays for energization under the Program. AMORE also supports DOE's thrust towards wider use of RE technologies principally to lessen the country's dependence on imported fossil fuels.</p> |
| Autonomous Region in Muslim Mindanao | <p>Most barangays energized under the AMORE Program are in the ARMM, which is one of the country's poorest and most volatile regions. AMORE's partnership with the ARMM government ensures that its activities are in line with the region's development goals, and that it has the regional government's protection as it implements the Program in some of the most conflict-affected provinces therein.</p> |
| Winrock International | <p>Winrock is a US-based non-profit organization that works in developing countries to support sustainable rural development and promote wider use of clean renewable energy technologies. It implements the AMORE Program in the Philippines through a team of local experts who are supported by both local and global subcontractors and Mindanao-based NGOs.</p> |
| Davao Light and Power Company | <p>Davao Light and Power Company (DLPC) is the third largest privately owned electric utility in the Philippines. One of the country's top 300 corporations, it is a wholly owned subsidiary of the Aboitiz Group of Companies' investment arm, Aboitiz Equity Ventures, Inc. DLPC provided solar renewable energy systems for five remote barangays in Davao under AMORE.</p> |
| National Power Corporation – Small Power Utilities Group | <p>The National Power Corporation-Small Power Utilities Group's assistance to AMORE is part of its commitment to electrify the remotest areas in the country that are not connected to the main power grid, under the Department of Energy's Missionary Electrification Development Program.</p> |
| Department of Agriculture's Quedan and Rural Credit Guarantee Corporation (QUEDANCOR) | <p>The Quedan and Rural Credit Guarantee Corporation, better known as QUEDANCOR, the credit and guarantee agency of the Philippine Department of Agriculture, has committed to provide Php25M in non-collateral, low-interest micro-loans for renewable-energy (RE)-powered livelihood projects of AMORE's beneficiary communities. Quedancor has so far awarded livelihood micro-loans to 38 BRECDAs</p> |

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|---|--|
| | <p>members in Tawi-Tawi. This commitment underlines QUEDANCOR's 25-year dedication to providing the capital needs of farmers, fisherfolk, market/food retailers and micro-entrepreneurs to spur countryside development.</p> |
| <p>Department of Agriculture's Bureau of Fisheries and Aquatic Resources</p> | <p>The Bureau of Fisheries and Aquatic Resources (BFAR) is mandated to conserve, protect and sustain management of the country's marine and aquatic resources such as fish and seaweed, alleviate poverty and provide supplementary livelihood among municipal fisher folk, improve productivity of these industries within ecological limits, optimally utilize offshore and deep sea resources and upgrade post-harvest technologies.</p> <p>Under its partnership with AMORE, BFAR shall determine the fish and seaweed processing technologies that are needed to improve existing livelihood activities in the areas and also assist in the promotion and marketing of fresh and processed fish and fishery products of selected AMORE barangays.</p> |
| <p>Department of Agriculture's Bureau of Postharvest Research and Extension</p> | <p>The Bureau of Postharvest Research and Extension (BPRE), formerly known as the National Postharvest Institute for Research and Extension (NAPHIRE), is among the many agencies and institutions of the Philippines serving farmers as well as other sectors in the agriculture industry. It spearheads the development of the Philippines' postharvest industry through the generation and extension of improved postharvest technologies.</p> <p>BPRE shall conduct field assessments in selected AMORE barangays to determine appropriate postharvest technologies for seaweeds, marine and other farm products that are abundant in the beneficiary communities. BPRE shall also lead the design, development, and prototyping of appropriate postharvest technologies for such products.</p> <p>AMORE has partnered with BPRE for the provision of a solar tunnel dryer for the Fish Processing Demonstration and Training Center in Barangay Pababag, Bongao, Tawi-Tawi, one of the program's several planned community-based demonstration and training centers for the use of renewable energy for livelihood enhancement.</p> |
| <p>National Irrigation Administration</p> | <p>Winrock-AMORE partnered with the National Irrigation Administration for the NIA-Winrock Solar PV Irrigation for High-value Crop Production Demonstration Program, under which NIA will provide solar pumping systems to AMORE for irrigating the high-value vegetable farms that the latter is establishing in a number of the villages in Mindanao that it is energizing with renewable energy. The solar-powered irrigation systems will serve to demonstrate the productive use of stand-alone, sustainable and clean solar photovoltaic energy, or energy from sunlight, to pump irrigation water for enhanced agricultural production. NIA will be using the solar pumping technology of WorldWater Corporation/World Water Philippines (WWP). WWP, in turn, shall be providing technical support for system review, design and installation as well as solar equipment upgrades.</p> |
| <p>Autonomous Region in Muslim Mindanao Social Fund Project</p> | <p>AMORE has partnered with the Autonomous Region in Muslim Mindanao Social Fund Project For the identification and implementation of a comprehensive community development program in areas such as infrastructure and social development services.</p> <p>ASFP may provide infrastructure and social development services under its Community Development Assistance (CDA) Program to recipient Sub-Project Approved Committee (SPAC)-approved barangays energized under the AMORE Program. These infrastructure and social services may include the following: a) Provision of health facilities such as health centers and those that fall within the menu of the ASFP-CDA component; b) Construction of farm-to-market roads or barangay roads; c) Construction of school buildings and those that fall within the menu of the ASFP-CDA component; and d) Creation of livelihood opportunities for target participants – through the provision of either funding support or skills training program/s.</p> |

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| <p>SMART Communications, Inc.</p> | <p>SMART Communications, Inc., the Philippines' leading wireless telecommunications services provider and a wholly owned subsidiary of the country's largest carrier, the Philippine Long Distance Telephone Company, is AMORE's partner in demonstrating to its beneficiary communities the use of renewable energy to connect remote, off-grid barangays to the rest of the nation and the world.</p> <p>SMART has established the following under AMORE: one RE-powered SMART Public Calling Office (PCO) in Sangbay Big Island, Lantawan, Isabela City in Basilan; five Talk and Text GSM Tawag Centers installed in Brgy. Napok in Datu Paglas, Brgys. Sumakubay and Lao-lao in SK Pendatun in Maguindanao, and Brgy. Kalian in Buluan, Maguindanao and in Sitio Lam-alis, Brgy. Datablao; and two Jembi payphones in Brgy. Lagasan and in the Tawi-Tawi BRECDA Federation office based in Brgy. Lamion, both in Bongao, Tawi-Tawi.</p> |
| <p>ABS-CBN Foundation's Bantay Baterya Program</p> | <p>ABS-CBN Foundation, on the other hand, through its Bantay Kalikasan, the environmental media program of the Foundation, created the Bantay Baterya Project, an advocacy and media campaign to inform the public about the dangers of improper lead-acid battery disposal.</p> <p>ABS-CBN Foundation has an existing Memorandum of Agreement with the Environmental Management Bureau (EMB) and Philippine Recyclers, Inc., for the promotion and implementation of the Bantay Baterya Project, thereby cleaning up the environment of pollution-causing junk lead acid batteries.</p> <p>The ABS-CBN Foundation, on the other hand, shall allow Winrock-AMORE to use the Foundation's Special Transport Permit for Hazardous Materials issued by the DENR-EMB in the collection and transport of the donated batteries from the beneficiary-communities to the identified depots and ensure that the donated batteries are regularly transported by PRI from their depots to PRI's Marilao Plant, whenever the inventory of donated batteries reaches 18 tons or enough to fill a 20-foot container or whichever comes first.</p> |
| <p>Philippine Recyclers, Inc.</p> | <p>Philippine Recyclers, Inc. has the capability and technical expertise in handling and recycling used-up lead acid batteries (ULABS) and it has a nationwide network that can facilitate the transport of the ULABS from the site to its Bulacan recycling facility.</p> <p>PRI shall provide Winrock-AMORE with a list of their identified collection centers and warehouses for storage of donated ULABS, retrieve the recycled ULABS from the designated collection sites and provide cost-effective transport to the PRI recycling plant in Marilao, Bulacan, ensure that all aspects of the Bantay Baterya Project comply with the environmental laws.</p> |
| <p>IBM Philippines/Eduquest, Inc.</p> | <p>The IBM KidSmart Early Learning Program makes use of information and communications technology to train young minds to develop their intelligences, guided by spiritual and moral values, through the teaching of a relevant and responsive curriculum. IBM Philippines Corporate Community Relations Program donates IBM KidSmart packages to primary and elementary public schools and Eduquest, Inc. provides complementary teacher training.</p> |
| <p>Embassy of Japan in Manila</p> | <p>The Clean Water for People Initiative of the U.S. and Japan, which was launched during the World Summit on Sustainable Development in Johannesburg in September 2002, aims to provide safe water and sanitation to the world's poor. It was created within the context of the Japan-US Partnership for Security and Prosperity that was announced in 2001 by US President George W. Bush and Japan Prime Minister Junichiro Koizumi.</p> <p>The Embassy of Japan in Manila provided a Php1.14M grant, through the Grant Assistance for Grassroots Human Security Projects (GGP) under Japan's Official Development Assistance (ODA), for the installation of a spring-fed, gravity-type potable water system in Barangay Chua, Bagumabyan, Sultan Kudarat under the AMORE program.</p> |
| <p>British Embassy in Manila</p> | <p>The British Embassy in Manila, through its Small Grants Scheme, provided a Php 1.597 million grant for the construction of a potable water system in Sitio Lam-alis,</p> |

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| | Barangay Datalblao, Columbio, Sultan Kudarat. |
| Knowledge Channel Foundation, Inc. | <p>Knowledge Channel Foundation, Inc. (KCFI) is one of the foremost proponents of the advancement of rural education by providing quality basic educational television through cabling and satellite dish infrastructure. They also train principal and subject heads on TV-assisted instruction and other support programs for improved education to public schools in the Philippines. Together with AMORE and other private sector partners, KCFI launched the Television Education for the Advancement of Muslim Mindanao (TEAM-Mindanao), a partnership that will improve the access to distance education facilities of at least eight remote communities (<i>barangays</i>) in Maguindanao.</p> <p>Under its partnership with AMORE, the TEAM-Mindanao project will support distance education initiatives in barangays covered by the AMORE 2 and SERED programs. AMORE will conduct surveys, consultations and validations with public primary, elementary and high schools, and possibly community learning centers in the areas covered by AMORE 2/SERED that require satellite-based Knowledge Channel educational programs. AMORE will likewise provide for the power requirements to operate the educational TV facility.</p> <p>Knowledge Channel, on the other hand, shall produce, develop and/or acquire educational programs for the channel, and secure the necessary channel from Sky Cable and other cable television companies. It shall also provide orientation to principals and teachers training on the operation and maintenance of the satellite-based television.</p> |
| ABS-CBN E-Media | AMORE installs solar-powered educational TV facilities in several pilot sites to air ABS-CBN's E-media Programs, which are geared for the benefit of Filipino children. The package consists of a 21" colored TV, a DVD player, a TV stand, a solar panel, batteries, and 10 DVDs of <i>Hirayamanawari</i> and <i>Bayani</i> presenting relevant values on heroism and history in an entertaining child-friendly format that makes learning more enjoyable for children. |
| Department of Science and Technology | The Department of Science and Technology provides information and communication technology (ICT) training of selected AMORE BRECDAs. |

ANNEX K. The AMORE BRECDA Federations

TONGKIL, SULU:

BOARD OF DIRECTORS (BOD):

Abdurahim Taalim
Asaali Muhalli
Hji. Abdurajak Ordonez
Almizan Valdez
Kursid Kurais
Maad Omar
Narsing Ismael
Al-makin Muin
Hji. Bazar Abubakar
Bashir Alih
Hji. Muctar Sahibul
Hji. Raden Ladjamatli
Samsudin Abdurajak
Janinuri Musin
Hji. Rasul Nurulla

OFFICERS:

Asaali Muhalli – President
Hji. Abdurajak Ordonez – Vice-President (V.P.)
Almizan Valdez – Secretary
Kursid Kurais - Treasurer
Janinuri Musin – Auditor
Al-Makin Muin – Public Information Officer (P.I.O.)
Alex Pompong – Business Manager

BASILAN

BOARD OF DIRECTORS:

Bojo Sadjiran
Muctar Junaid
Jerry Hadjirul
Karil Banal
Hassan Halani
Karim Siddik
Mannan Angkang
Mubin Hamdani
Masid Moh. Nur
Hji. Malik Roy
Hja. Misba Abdulmajid
Ansira Mohammad

OFFICERS:

Bojo Sadjiran – Chair
Muctar Junaid – President
Karim Siddik – V.P. for Cluster 5 (Isabela & Lantawan area)
Muksan Mustaham – V.P. for Cluster 1 & 2 (Sumisip area)
Karil Banal – V.P. for cluster 3 (Tipo-Tipo area)
Hassan Salani – V.P. for cluster 4 (Tuburan area)
Mannan Angkang - Secretary

Ansira Mohammad – Alternate Secretary
Mubin Hamdani - Treasurer
Masid Mohammad Nur – Auditor
Hji. Malik Roy – P.I.O.
Hja. Misba Abdulmajid - Business Manager

ZAMBOANGA CITY

OFFICERS:

Basri Sali - Chair
Hji. Mursidi Misuari – Vice Chair
Bashir Abdilla – Secretary
Carsoma Abunawas – BOD member
Al Jailani – RES Com Chair

ZAMBOANGA SIBUGAY

OFFICERS:

Hernandez Sedoon - Chair
Felipe Quinton – Vice-Chair
Edgar Barit – BOARD OF DIRECTORS member
Noel Bulay-og – Secretary
Salvacion Aparicio – RES Com Chair

SIASI, SULU

BOARD OF DIRECTORS:

Asaral Wajihil
Ganan Gani
Kamid Akmad
Abdulakid Alimuddin
Jah Asgali
Satra Wajihil
Andan Pungutan
Dabbong Ismael
Hasan Aming

OFFICERS:

Amrajul Jimbulan – Chair
Jaurin Jawad – Vice Chair
Herdan Hasinon – Secretary
Mustadi Jalali – Treasurer
Alsid Jawad – P.I.O.

TAWI-TAWI

BOARD OF DIRECTORS:

1. Hja. Rebecca Hussam
2. Talib Uring
3. Sabrie Sasapan
4. Nahuda Sangkula
5. Madzrada Ladjabassal

6. Norata Soon
7. Dawili Awwali
8. Rosby Mendosa
9. Edwin Makaandal
10. Hj. Moh'd Yunus Jubair
11. Ekram Malabong
12. Talib Uring
13. Nurpatta Basa
14. Hj. Sulayman Sandangan
15. Abdulmutalib Sulayman
16. Nurhusin Baladji

OFFICERS:

1. Fernando Elam – President
2. Puji Mohammad – Vice
3. Hja. Rebecca Hussam – Secretary
4. Barlie Mustaham – Treasurer
5. Julficar Ladjahali – Auditor

CENTRAL MINDANAO

BOARD OF DIRECTORS:

1. Alex Laguילayan
2. Baguadaln Madatu
3. Bainot Kalanganan
4. Mocamad Abas
5. Agustin Dabi
6. Mohammad Mambatawan
7. Alex Pompong

OFFICERS:

1. Alex Laguילayan – Chairman/President
2. Baguadaln Madatu – Vice
3. Bainot Kalanganan – Secretary
4. Mocamad Abas – Treasurer
5. Agustin Dabi – Auditor
6. Mohammad Mambatawan – P.I.O.
7. Alex Pompong – Business Manager

DAVAO

BOARD OF DIRECTORS:

1. Tomas Tico
2. Oscar Saro
3. Corazon Mahinay
4. Luzvina Villanosa
5. Avelina Manar
6. Bernardino Regidor

OFFICERS:

1. Tomas Tico – Chairperson
2. Oscar Saro – Vice
3. Corazon Mahinay – Secretary
4. Luzvina Villanosa – Treasurer

5. Avelina Manar – Auditor
6. Bernardion Regidor – P.I.O.

MHP BRECDA CORE GROUP

BOARD OF DIRECTORS:

1. Vando Sabucido
2. Loreto Dianga
3. Tomas Tico
4. Avelina Manar
5. Eldie Mercado
6. Haron Ibad
7. Alimudin Balamal

OFFICERS:

1. Haron Ibad – Chair
2. Vando Sabucido – Vice-Chair
3. Eldie Mercado – Secretary
4. Alimudin Balamal - Treasurer

ANNEX L. THE BRECD A REGIONAL WOMEN'S COUNCIL

OFFICERS:

| | |
|--------------------------------|-------------------------|
| President | : REBECCA HUSSAM |
| 1 st Vice-President | : HJA. CARSONA ABUNAWAS |
| 2 nd Vice-President | : BAINOT K. KALANGANAN |
| Secretary | : ANSIRA H. MOHAMMAD |
| Treasurer | : JINA G. ANUNCIADO |

Board of Trustees:

1. Rebecca Hussam
2. Madzrada Ladjabassal
3. Norata S. Soon
4. Maimona Ladjahali
5. Hja. Marawiya Usman
6. Nurshalyn S. Hasinon
7. Shehada S. Abbas
8. Hja. Carsoma A. Abunawas
9. Ansira Mohammad
10. Riza P. Cotot
11. Bainot Kalanganan
12. Jina G. Anunciado
13. Samia Ibad
14. Kalasuma N. Laguilayan
15. Bedaria Dimaocom

ANNEX M. SUCCESS STORIES

Changing mindsets, changing lives

Doubt and skepticism greeted the AMORE Program staff when they entered and introduced the project to the residents of Barangay Luuk Poblacion in Tongkil, Sulu. They later learned that the people in the community have grown wary of NGOs that have come to their village and gone with their promises unfulfilled.

To the residents' great joy, AMORE proved different. It delivered the solar power systems with which it energized their community. It didn't merely install the systems and then leave, though. AMORE asked them to help in the installation and to provide sand, gravel, water and labor. They carried all the materials, dug all the holes for the poles, and mixed the cement to set the poles in place. Given their profuse enthusiasm, it took them only a day and a half to install the systems, which usually took 3 to 4 days. Best of all, AMORE guided them in organizing themselves into a BRECDA—something that they thought was not possible since they had so little belief in themselves, much less in their capacity to put up and manage an organization.

With this change in their lives, the residents have found new faith in the sincerity of the government, the private business sector, and NGOs in helping them bring about the development they have long been waiting for. Most importantly, it has given them faith in themselves, and hope that they can carry on after AMORE, on their own.

“We are now out of the dark.”

Jabidi Talib, a member of the BRECDA of Barangay Lampinigan, Isabela, Basilan, was ecstatic. “We should be thankful to AMORE because we are now out of the dark,” he says.

Being “out of the dark” signifies two things for Jabidi and his BRECDA: one, they now enjoy bright, safe, clean and reliable electric light in their homes; and two, they are now more confident and capable of pursuing not only their community's all-out development, but even their personal development.

“AMORE gave us not only electricity, not only the means to develop our barangay, but also the means to develop personally.... Through our BRECDA, we have been given opportunities for basic trainings on financial management, leadership, and skills development.... These skills, we are using to make our BRECDA stronger and more sustainable,” he says.

Jabidi envisions his BRECDA as a cooperative, so that it would remain a driving force in the development of his entire community even after AMORE. To realize this, he strongly encourages his members to take care of their RE systems.

“There's hope after all.”

These brief words best manifest the change that came over Gerry Hadjirul's small village of Barangay Lower Cabengbeng in conflict-afflicted Sumisip, Basilan since AMORE came and brought light to their homes, streets and community center and hope in their lives.

Gerry was like many others in his community who felt neglected by the government and had lost all hope that development would still come.

The nights were especially difficult for them before AMORE. To fight the darkness that ruled the village at that time of day, Hadjirul's family used *palitaan*—kerosene lamps made of either glass bottles or tin cans, the dim, flickering light and smoke from which discouraged his children from finishing their study, his womenfolk from continuing with their mat-weaving, and Gerry from going out to fish for fear of getting lost at sea. When AMORE's bright solar-powered fluorescent light illuminated his house for the first time, his children almost cried for joy.

The light has reignited his faith in the government and in society. Today, Gerry is a member of his village's BRECDA. Once hopeless, he is now burning with faith in the future and is passing on the flame to the rest of his community.

From rebel to peacekeeper

The name *Kumander Gubat* ("Commander Forest") used to strike fear in the hearts of military officers and soldiers, big businessmen and politicians in Central Mindanao in the 1970s. As zone commander of Central Kutawato of the Kutawato State Revolutionary Committee, the military arm of the Philippines' biggest Muslim secessionist group at the time, the MNLF, this jungle warfare veteran's turf cut across some politically important towns of Sultan Kudarat.

Today, *Kumander Gubat* is simply Mohamad Mambatawan, peace and development worker.

Mambatawan is now the chairman of the BRECDA in his hometown, the mountain village of Chua, some 25 kilometers from the town center of Bagumbayan and nestling at an altitude of 750 meters above sea level right in the midst of the Daguma Range.

Barangay Chua, which is at least 10 kilometers from the nearest power grid, was finally electrified in January 2005 by the AMORE Program with an 8-kilowatt micro-hydro facility for 52 households, two schools, one community center, one health clinic, one *madrasah* school (a school for the training of Muslim spiritual and legal leaders, found in remote Muslim rural areas with no government-run public schools), three commercial/industrial establishments, 20 streetlights, and one battery charging station.

Mambatawan believes that keeping peace and order in the community is very important for more projects to come to their village. "No matter how good the organizing and the number of projects being implemented are, if there is no peace and order in the community, everything is doomed to fail," he says. Mambatawan says most residents in Chua have experienced living in fear because of the war and are looking forward to a peaceful life. As BRECDA leader, he is committed to ensuring that peace will prevail in his community, and to pursuing more development projects.

From battlefield to best BRECDA

Kuraisiya Hussin was invited by her uncle, a former MNLF commander from Barangay Duggo in Siasi, Sulu, to join the MNLF medical team and spearhead its Duggo unit in the mid-1970s. Only 15 years old then, she joined the movement to stop what she believed was the Philippine government's plan to convert Muslims to Christianity. When the war was over, she earned a Bachelor of Science in Elementary Education degree and became a teacher at the Duggo Elementary School.

Twenty-five years after the war, Kuraisiya's co-villagers began talking again about going back to the MNLF. So much discontent had been mounting in their hearts over how slow Mindanao

seemed to be progressing, and over how much Duggo had been left behind in terms of development.

It was at this time that the AMORE Program entered Duggo. The teacher in Kuraisiya immediately welcomed the program, hoping that her pupils could finally study better at home at night with electric lights and thus, learn more.

Since Kuraisiya's home is closest to the school, when the school has an activity for all its 225 pupils and 7 teachers that would thus require a sound system, she would allow a cassette recorder to be connected to her house. Their school programs are now alive with the clear sound and the sprightly song and dance numbers of the students.

More importantly, Kuraisiya's co-villagers who were again recruited by the MNLF, following the arrest of its founder, Nurrulujah Misuari, opted to forfeit their membership with the thought that peace and development are finally gaining ground in Duggo.

In March 2005, at the culminating event of the AMORE Program in Manila, the Duggo BRECDA was declared the best of 26 outstanding BRECDAs throughout Mindanao due to their demonstrated commitment to sustain their systems and pursue their own development.

No more coughing

The people of Barangay Bakkud in Siasi, Sulu had grown accustomed to the pungent smell of smoke when using their kerosene lamps to light up their houses at night. They could not get accustomed to the severe coughing and vomiting they experienced, though, each time they happened to inhale the fumes. Children were especially exposed to smoke as they sat next to the lamps for hours on end when studying at night. They had no choice but to live with the smoke, however, if they wanted to dispel the darkness.

All that changed when AMORE entered their village. They finally had a smokeless and brighter alternative to kerosene lamps. Not only do the residents now feel healthier, but their children can now also study better at night and they can now even put in extra hours of work at night whenever their livelihood requires it.

Crops to quicker cash

To vegetable farmers in Little Margos, Tungawan, Zamboanga Sibugay, preparing and packaging harvested crops used to be confined to daytime. With only kerosene lamps giving them light at night, they found it difficult in the evening to segregate quality vegetables from rotten ones for selling to wet markets at the crack of dawn. The dim, flickering light and the fumes slowed them down considerably, and thus, limited their income.

Having grown cynical from politicians' failed promises to electrify their village, the farmers could not help but doubt development programs that came to their village. The same was true with the AMORE Program. The Program's community development worker assigned to Little Margos had a difficult time organizing 30 households to comprise the BRECDA. Her persistence, however, convinced the people that AMORE was for real.

In November 2004, AMORE finally energized Little Margos with solar home systems. Among those who benefited most from the electrification were the community's farmers. "We can already deliver our crops to Zamboanga City at three in the morning of the next day—thanks to

our solar lights from AMORE,” said the village’s BRECDA Secretary, Mary Jane Villaflor. That has made all the difference in the lives of the farmers and their families, who could now sooner convert their crops into much-needed cash.

Dreaming bright

Norminy Arik is a high school student in Bongao, Tawi-Tawi. She has to travel by boat for over an hour to go to school everyday from her island village and back. She does not mind the difficult commute, though, because she knows she must persevere in her studies if she wants to realize her dream of becoming a teacher someday.

Being a hardworking student, Normini studies at night. When her village was still unelectrified, though, she used dim, flickering kerosene wick lamps that made it difficult for her to read her schoolbooks. In addition, the pungent odor and smoke irritated her nose and eyes.

Committed to excel in her studies, she asked her father to buy a generator so they could use fluorescent lights. A generator is expensive, however, and her father needed time to earn the money to buy one. Fortunately, the AMORE Program entered her village and installed a 12-VDC fluorescent light in their house, powered by a battery charged with solar energy.

Today, Norminy is very happy. She is now able to study better and longer due to the bright light in her house. Solar power has lit up her life and is helping her pursue her dreams.

“My son couldn’t even spell my name.”

Even though Hamsaini Kipli was already a fourth-grade student in Barangay North Tapian Bohe, Sapa-Sapa, Tawi-Tawi, he did not yet know how to read. What distressed his father, Ussam Kipli, most was that his son could not even spell his name. Ussam wanted to transfer Hamsaini to a school in Tawi-Tawi’s capital, Bongao, but knew that his son would not make the grade unless he dramatically improved his reading and writing skills.

Having had some college units, Ussam wanted to tutor Hamsaini himself. He could only do so, however, when he returned from fishing at night. The problem was it was already too dark then.

When AMORE came to the village and illumined the Kipli household with bright fluorescent lights, Ussam immediately bought a blackboard and started teaching his children at night. Moreover, his children could already continue reading their English books well after dark to further improve their reading comprehension and vocabulary.

In June 2002, Ussam enrolled Hamsaini in a school in Bongao. He did not expect much, however, since schools in the capital town were deemed more competitive. His night teaching sessions paid off, though—

Hamsaini is now in sixth grade in Bongao, and is in fact one of the top three students in his class. Best of all, he could now spell his father’s name.

Sherna’s dance

Sherna Hassan, a first-grade student at the Duggo Elementary School in Siasi, Sulu, could not hide her smile when she said, “All of us in school are aware of the AMORE Program because we now have music from a cassette recorder whenever we have a program in school.”

Thirty households in the remote village of Duggo are now experiencing electricity for the first time, ever since AMORE lighted up their village with solar power. Whenever the local school has a program, a cassette recorder is connected to the nearest energized household.

Sherna is proud that her schoolmates could now perform songs and dances during their school programs, and also that they get to help their school this way. She said this is why AMORE is popular among her peers. In fact, they see their parents' membership in their village's BRECDA as a privilege.

"We are also part of the BRECDA," she says, as she discloses that she and other children of BRECDA members in their village are asked to help out in some of the organization's activities.

"What's more, I could now do our assignments even after 9 in the evening—at which time, before AMORE came, we were already asleep," she said.

And with a twinkle in her pretty eyes, Sherna danced the *pangalay*, a local dance, under AMORE solar lights.

Night life in New Canaan

"It's a full house!" New Canaan, Titay, Zamboanga Sibugay residents would exclaim, referring to the 'home theater' that the Ba-ids have opened in their community.

The Ba-id family is the only household in the village that owns a TV set and a VCD player. Their 21" TV set has brought much joy to their co-villagers, who, for the first time in their lives, experienced electricity and "night life," after AMORE came into their community in May 2004.

Every night, people flock to the Ba-id residence to watch Filipino action movies. "The nightly shows attract not just the BRECDA members but also other residents of the village," an AMORE CDW observed.

"Evenings used to be dull and quiet in New Canaan," said Bonifacio Bulay-og, a BRECDA member. "But since the Baids' TV and VCD player came to our community, it is as if there is always an exciting event that awaits us at the end of a day's work," he added. "Some of our children have not even seen a television yet at that time, so it was a wonder to them at first how images could appear on the screen."

The community, named after the Biblical Promised Land, is convinced that development will continue in their village even after AMORE. For them, the light introduced by the Program is a sign of better things to come.

Five pesos a day for light

The thirty households in the village of Barangay Lanawan in Sumisip, Basilan lighted up by the AMORE Program with solar battery charging stations are only too happy to take care of their solar power systems that are giving them bright, smokeless electric lights. Like in most poor, remote communities, however, money is hard to come by. The BRECDA members found it difficult to pay their full monthly O&M Fund contributions to sustain their systems. They refused to give up, though. Thinking that before AMORE came to their village, they used to buy a five-peso candle everyday to light up their households at night, they could very well set aside five pesos everyday for their BRECDA's O&M Fund. They put their savings in a piggybank-like

container at their battery charging stations. With this scheme, they are now able to pay their full monthly O&M Fund contributions, and are now looking forward to the time when they will have enough funds set aside to buy additional systems with which they can extend electric service to the rest of their community.

No to war

When news of the brutal killing of the barangay captain of Mandulan, Bongao, Tawi-Tawi and his wife broke out in late 2003, some of their family members organized a group to avenge their deaths and take the law into their own hands. Armed conflicts were common in these remote Muslim communities in the southernmost part of the Philippines, due to which it is said that all menfolk in these villages own a gun and that a rifle is a higher priority in households than food on the table.

In further retaliation, the victims' survivors planned to steal the RE systems installed by the AMORE Program in the village, from the communal solar battery charging stations to the solar-powered streetlights and the solar home system installed in the community center.

Fortunately, in December 2003, AMORE had federated all its BRECDAs in Bongao, Mandulan included. Julficar Ladjahali, BRECDA Chairman of Barangay Lagasan, was elected Chairman of the Federation. When the bloody plans of the victims' family reached Mr. Ladjahali, he immediately met with the captains of Mandulan's 10 neighboring barangays. With the assistance of Padjing Juwak, Chairman of the Association of Barangay Chairmen in Bongao, he arranged for a dialogue with the leader of the avenging group.

During the negotiations, Mr. Ladjahali appealed to the victims' family to abandon their plans and seek the help of the proper authorities to solve the issue. He also sought their cooperation in the protection of the solar power systems in Mandulan. "Since I was elected Chairman of our Federation, it is my responsibility to take part in resolving the conflict so that the RE systems would be protected from theft and damage. I want to preserve my members' trust in me and in the AMORE Program," said Mr. Ladjahali in *Tausug*, the local dialect.

Convinced that peace is indeed better than war, the avenging group abandoned their violent plans and turned over the problem to the authorities. In mid-February 2004, local police arrested the suspected criminal in nearby Barangay Lakit-Lakit.

Barangay Mandulan now looks forward to a more peaceful and progressive future with the help of its BRECDA and the Bongao BRECDA Federation.

Rising from the ashes

The village of Kalumenga in Datu Paglas, Maguindanao used to be a war zone between the military and the MILF. Mutarib Guipal recalls when his family fled with 26 others to an evacuation center after their houses were razed by fire during the clashes. It was there, in Feb. 2002, that AMORE Community Development Workers approached them and began talking to them about a new life powered by renewable energy. When they returned to their village, they banned all firearms and declared their barangay a peace zone. AMORE helped them organize themselves into a BRECDA through which they could pursue their own development, and energized 30 households in the village as well as the community center with solar power systems, and installed two solar streetlights.

When the residents saw their lighted homes and village, they couldn't help but express their joy. "Just a few years ago, we stopped dreaming that development would come to our community," says Motalib Pigan, a local leader. "I never thought that electricity would someday come to our homes."

Encouraged by the presence of electric power in the community, the NGO *Gawad Kalinga* built a housing project therein. Through the initiative and leadership of the BRECDAs, the villagers conducted an environmental scan of their community to check on the resources that they could tap to further improve their living conditions. AMORE helped them implement a high-value vegetable project that increased their farming productivity and diversified their produce, and established a grains drying facility and a public calling office in the same village. To protect their RE systems and the other developments that have come to their barangay, the people successfully negotiated for a ceasefire between the military and the MILF. Today, Mutarib heads his village's BRECDAs and is an active member of the Bishops-Ulama conference that initiates peace dialogues between the MILF and the government.

An unusual zeal

The municipality of Columbio in Sultan Kudarat is known to be a stronghold of the New People's Army, the revolutionary arm of the Communist Party of the Philippines. When the AMORE Program entered Sitio Lam-alis in Barangay Datal Blao in Columbio to energize the community with a 7-kW mHP system, alleged communist sympathizers, knowing that AMORE was a project of USAID, questioned its field workers on the Program's intent and approach. The AMORE staff objectively presented the Program and, more importantly, encouraged the village's BRECDAs members to respond to the queries themselves. The BRECDAs members zealously defended the project, expressing their need and ownership of the mHP system that AMORE was planning to build therein and convincing the NPA members to leave the project and let the Program alone.

The same zeal with which they defended the project also drove the Lam-alis BRECDAs to help build the mHP system, put up the agrimill and high-value vegetable farm that AMORE also established therein, and manage the IBM Kidsmart Early Learning facility that AMORE leveraged from IBM Philippines. The BRECDAs has also initiated and kept a close partnership with its municipal government, which has provided them with trucks for hauling materials for their mHP system, given them follow-on financial management training, regularly attends their meetings and events, and has made them a member of Columbio's Municipal Council of Development Organizations.

A tidal wave of support

Barely a month after AMORE energized remote, war-ravaged Kalian in Buluan, Maguindanao with solar power in May 2004, development projects surged in the village. Another USAID program, Growth with Equity in Mindanao (GEM), developed the muddy roads leading to the community, which made it easier for farmers and fishermen in the surrounding Buluan Lake to bring their harvests and catch to the town market. Themselves energized, the village officials asked their mayor to facilitate the delivery of basic social services in their community. A primary school was built and opened in Kalian in June, with the Philippine Department of Education paying for the teachers' salaries and AMORE staff donating secondhand books. Later, SMART Communications put up a public calling office (PCO) in the village that has lessened the villagers' sense of isolation from their loved ones working abroad and from the rest of the country. Nearby villages are also using the PCO, and the Barangay Chairman adds that he no

longer has to go to the town hall for news because it is now their municipal government that calls him directly to inform him about developments. On its first four months of operation, the PCO already registered a modest profit of PhP3,372 (US\$61.31), which was shared by the operator and the BRECDA.

A woman leads them

When Carsoma Abunawa agreed to chair the BRECDA in her island village of Tumulutab in Zamboanga City, people thought she was mad. Women are not known to lead in Muslim communities, especially for such a project as AMORE, which, as with other projects before it, the people doubted would live up to its word to bring light and hope to their village. Unfazed, Carsoma rallied her members to carry on, until the bright, clean lights of AMORE came. Now, Tumulutab's BRECDA has one of the highest O&M Funds among the BRECDAs—enough to purchase an additional solar home system with which to spread the light and hope to more households in their village.

Tawi-Tawi's women leaders

Generally, women in remote communities in Tawi-Tawi have only two options in life: to become a housewife or a teacher. Upon completing elementary education, rarely are they allowed to continue schooling, unless they choose the latter option. Men have dominated the roster of BRECDA chairpersons from day one of the AMORE Program, but a number of women leaders have outdone themselves in assuming leadership of their respective BRECDAs.

Madzrada Ladjabassal is the barangay captain and concurrently the BRECDA chairperson of Pamasan in the municipality of Sapa-Sapa. BRECDA Pamasan has the highest O&M Fund among all the BRECDAs in Tawi-Tawi.

So devoted was the BRECDA to AMORE that they even 'composed' a song on the Program by changing the lyrics of their traditional folk song, *Tawi-Tawi Beach*, into words that dramatize the project's benefits to their barangay.

Hja. Rebecca Hussam, BRECDA chairperson of Laud, South Ubian, is also the chairperson of the South Ubian BRECDA Federation. She is pursuing several projects for her community, saying that "If I do not take care of our needs, who else will?" News of her leadership skills have transcended the borders of her municipality. She was offered key positions in the provincial BRECDA federation but had to decline because of her work in the municipal court.

Although a Filipina, Hja. Winnie Nang Wait had been living in Malaysia for several years when her brother invited her to settle in the Philippines. She ran for the position of barangay captain in Sallangan, Tandubas in the last barangay elections and won over the traditional male political leaders in the village. Her devotion to her constituents is unquestionable. With her own money, she replaced the unsafe wooden bridges that connected her people's homes (which are on stilts) to the coast. She also opened a barangay health center. Moreover, Hja. Wait exposed the fictional barangays of Kalang-Kalang and Baliungan in Tandubas so that the RE systems assigned to them would be given to the rightful beneficiaries, and she motivated the BRECDA in nearby Tapan Sokah to fully pay their monthly O&M Fund contributions. AMORE CDWs recall that Hja. Wait was a staunch supporter of the Program, providing them escorts whenever they traveled in critical areas and readily offering them her speedboat for free.

BRECDA inspires youth to be knowledge and peace champions

When the remote village of Talitay in Buluan, Maguindanao was lighted up by AMORE in 2004, all the residents' doubts over the program were immediately dissipated and replaced by a renewed motivation to sustain their long-awaited development. The Talitay BRECDA became such a moving force in the community that the young people in the village were inspired to put up a similar organization, which they called the Talitay Youth Organization. The group now has 48 members who each pay PhP50 (US\$0.91) monthly to generate their own funds for their projects, one of which is a reading center called the Talitay Youth Reading Center, which AMORE has also lighted up. Now, even children of non-BRECDA members in the village can avail of the electric lights from AMORE while studying. The Talitay Youth Organization also plans to put up a computer center to fully maximize and expand the benefits of electricity in their community.

There are now 30 BRECDA Youth Development Associations in Central Mindanao and Davao.

Nurturing the environment

Through AMORE's persistent efforts to educate its beneficiaries, its mHP communities are very much aware that protecting their watershed is vital to the sustainability of their electricity. They have thus planted a total of 38,857 seedlings of both hardwood and fruit-bearing trees on a total of 336.69 hectares in their respective watersheds. Various entities donated the seedlings, among these the Department of Environment and Natural Resources, AMORE NGO partners Maguindanaon Development Foundation, Inc. and YAMOG Renewable Energy Development Group, Inc., the villages' local government units, and the communities themselves. Meanwhile, the villages' BRECDAs are keeping a close watch on illegal loggers and *kaingin* practitioners.

Clean water for remote Mindanao barangay

Despite the abundance of water in Barangay Chua, an upland community 13 kilometers from the town proper of Bagumbayan in Sultan Kudarat and one of AMORE's three mHP sites, water used to be a problem to many of its residents. In fact, it was a scourge to the village's children and women, who were given the backbreaking task of fetching water daily from afar for their families. Women also spent the entire day by the river, washing dishes and clothes, which polluted the water, giving rise to a high incidence of waterborne diseases.

Fortunately for the village, their water problems are over. Through AMORE's efforts and the track record of Chua's BRECDA in managing their mHP system, 100 households in six water-scarce *sitios* in the barangay have become first in Asia to enjoy safe drinking water under the Clean Water for People Initiative of the United States and Japan. The village was the recipient of a PhP1.14 million grant from the Japanese government, through its Grant Assistance for Grassroots Human Security Projects under its Official Development Assistance program. There are now 18 communal distribution points or faucets in the village where the residents can conveniently fetch tap water. In return, they pay a monthly fee of PhP10 (US\$0.18) per household, which their BRECDA uses to operate and maintain the water system. AMORE also trained the villagers on the proper use, operation and maintenance of the system, as well as educated them on the importance of conserving water.

A force for good

Back in 2002, Belen Sansawi was Secretary of the BRECDA of Mandulan in Bongao, Tawi-Tawi. She stood out due to her eloquence, her leadership ability, the orderly yet participatory way in which she conducted meetings, and the efficiency and order with which she kept records. She

was one of the driving forces behind her community's emergence from a totally inexperienced barrio to an organized village. In August 2004, AMORE employed Belen as a full-time community development worker to fully utilize her skills in organizing other communities. As part of the AMORE team in her province, she has been partly instrumental in transforming weak BRECDAs in her province, AMORE's pilot site, into viable community development organizations.

Helping more

Kursid Kurais is the son of a former MNLF combatant. He was born in Tabialan, Tongkil, Sulu, a former MNLF stronghold. His heart is not into fighting, though, but into teaching, being a graduate of B.S. Elementary Education and a registered teacher. When AMORE committed to energize Tabialan with renewable energy and organized a BRECDa in the village, Kursid was elected Treasurer of the organization. Inspired by AMORE, he joined the project as a full-time community development worker so that he could help more of his people. "AMORE challenged us. We realized that our decades of armed struggle have not bettered our lives. This time, we want to give peace a chance," he said.

Braving the risks

For years, AMORE Engineer Raul Agapay scoured mountains to reach far-flung villages to install solar power systems. Many of these villages were strongholds of the MILF, but Raul dismissed the risks and instead focused on the fulfillment he got from lighting up the lives of the poorest of the poor. Locals offered him armalites to defend himself, but his sincerity in helping them, which they instinctively felt, gave him more than ample protection. Raul takes his hat off, however, to the BRECDAs, which were his ablest protectors and partners. He is convinced that they are indeed the key to sustaining the systems and to effectively engaging the people of Mindanao to pursue their own development.

Love conquers all

Neneng grew up in Tubugan, Basilan, where she witnessed the brutal killing of her aunts, uncles, cousins and other kin during the military offensive against the MNLF in the Martial Law era. These memories, clearly etched in her heart, led her to hate all Christians. She even used to think of how she would kill her Christian best friend.

Early on, she learned how to handle a gun and every year, she saved enough money until she could buy one for herself. The MNLF trained her in warfare and even sent her to Libya for 7 years to master the art of war.

Time, age and love have toned down her hatred towards Christians, though. Her husband's spirituality particularly rubbed off on her. As a CDW for AMORE, she grew to love her work, and became one of the Program's more committed field workers in transforming fledgling BRECDAs into thriving organizations.