



DOST



## TERMINAL REPORT

Period Covered: July 01, 2014 – December 31, 2015

<b>Project Title</b>	<b>“Developing Capabilities of Women to Combat Climate Change through Science &amp; Technology Interventions: Building Resilient Communities in the Selected Three Municipalities”</b>
<b>Location</b>	<b>Province of Bohol, Region VII, Philippines</b>
<b>Proponent</b>	<b>Participatory Research, Organization of Communities and Education towards Struggle for Self-reliance (PROCESS)-Bohol, Inc.</b>
<b>Project Cost</b>	<b>PhP 954,299.60</b>
<b>Amount Requested from DOST7 GIA</b>	<b>PhP 694,840.00</b>
<b>Proponent’s Counterpart</b>	<b>PhP 259,459.60</b>

### Project Components:

#### Component 1: Capability Building for Balilihan and Antequera

The one-year project started immediately after PROCESS-Bohol received the project funds last September 16, 2014. As part of the standard operating procedure of PROCESS-Bohol, courtesy calls were done to the Local Chief Executives of Antequera, Balilihan and Bien Unido. Although in Bien Unido, another meeting with Mayor Niño Rey F. Boniel was conducted to further inform him that his municipality was still included in the newly approved one-year project to showcase the science and technology that were introduced in the previous project. This initiative was done to ensure continued support from the local executives of the three (3) municipalities.

In mid-November, 2014, a meeting with Engr. Marcial Tanggaan, DOST Provincial Director, was done to discuss the project implementation. As agreed during the meeting, the first component of the implementation will focus on the capacity building activities for the 2 new municipalities, namely Antequera and Balilihan.

The *first* activity conducted under this component was the *Hydroponics, Containerized/Urban Gardening and Rainwater Management Training* conducted last March 19, 2015 with a total of 26 women actively participated during the one-day activity

with 4 facilitators/resource persons. Hands-on practicum on how to make hydroponics/urban gardening was also done.

The *second* activity was the *Biogas installation and Management Training* which was conducted last November 3, 2015. Mr. Leandro Gamalo of the Provincial Veterinarian Office was tapped as resource person during the one day training. A total of 32 women participants actively attended with 4 facilitators/resource persons.

At the end of each training most of the participants shared their learning and insights as well as their impressions. Generally, all the participants shared that the training was very informative and the resource persons were very much knowledgeable in their field of expertise.

Particularly on the hydroponics, the technology itself is very user-friendly and does not need extra efforts to replicate the technology in their respective places. It can be done individually considering that some of the materials needed could be found in the backyard except for the nutrient solution. It is also an environment-friendly technology since they learned how to recycle things that can be used for urban gardening as well as for the hydroponics technology.

Each municipality was given one (1) set of nutrient solution for them to replicate the said technology to their respective areas. After the training, each group also brought with them boxes of hydroponics technology planted with lettuce as their reward in attending the training.

In support to the project implementation, 1 unit laptop with accessories was purchased to support the project activities at the community level especially during training.

## **Component 2: Continuing interventions for women empowerment in Bien Unido**

The continuing interventions for the women empowerment in Bien Unido formally started right after the courtesy call done by the implementer to the Local Chief Executive in Bien Unido. During the visit, Mayor Niño Rey F. Boniel recommended the island barangay of Sagasa as the recipient of the project. The island barangay was chosen by the Mayor because the women's group with the support of the Barangay Council whose Barangay Captain is also a woman, actively participated during the previous project interventions. Both parties agreed to implement the said project in the island barangay of Sagasa, Bien Unido.

Series of meeting with the barangay officials and women's organization in the island barangay of Sagasa were conducted to discuss about the project as well as come out with the plan of activities to be done including the location of project to be installed.

As agreed during the meeting, the ferrocement tank/rain water collector (low-cost rainwater collection system) shall be constructed near the day care center of the barangay which serves as the source of water coming from the roofing of the building. On the other hand, the mini-greenhouse shall be constructed near the elementary school of the island where it could serve as the showcase or model for educational and replication purposes in the households of the island. Likewise, the household model biogas shall be installed in their barangay hall.

Thus, on April 22, 2015, the 5-day hands-on *Training on Ferrocement Tank Construction and Rain Water Management* kicked-off. There were 43 participants attended the hands-on training of which 49% were women delegates (*female-21; male-22*). The five days hands-on training ended last April 27, 2015 with the testimonies from the participants that they will replicate the technology they have learned from the project. Intensive supervision of the assigned staff with technical assistance from an engineer was regularly done to make sure that the finished product (rain water collector) was properly constructed. The water tank was enhanced by making painting design on its outside wall with logos of DOST, PROCESS-Bohol and those of the LGU partners. After its completion, the project was turned over to the Barangay Council of Sagasa and claimed ownership of the project. They installed bamboo fence which surrounded the water tank to protect from any untoward incidents and for to ensure proper management of the rain water collector.



Another 5-day hands-on training was conducted in the island barangay of Sagasa, Bien Unido on *Hydroponics and Establishment of Mini-Greenhouse* last June 12-17, 2015. During the first day of the training, no less than the Mayor of Bien Unido, Mayor Niño Rey F. Boniel was present to show support of the project. The support of the young Mayor gave the islanders more encouragement and support for the project. The succeeding days were the hands-on training on the construction of the mini-greenhouse as well as the establishment of a hydroponics garden. The women participants actively participated in performing the hydroponics gardening like seedling preparation, mixing of nutrient solution to water, among others. Likewise, the men participants were working on the installation of the mini-greenhouse. A total of 30 women participants actively participated with 4 facilitators/resource persons.



After its completion, the women with the support from the Barangay Council claimed ownership of the project. They also installed bamboo fence surrounding the mini-greenhouse to protect from the stray animals in the island and to ensure proper management of the project.

Same standard procedures applied in the canvass and procurement of materials was properly observed.

The last training conducted was the Hands-on Training and Installation of Household Model Biogas. The training was conducted last November 24, 2015 at CRM Office, Bien Unido, Bohol. Participants coming from the island barangays of Sagasa and Bilangbilangan as well as from the 8 mainland barangays attended the said training.

There were a total of 27 participants and 3 facilitators during the said training of which 89% were women (*female-24; male-3*).

Monitoring and evaluation of the project was also done last July 23, 2015 with Engr. Marcial Tanggaan, Ms. Emilia M. Roslinda and the project management team visited the project established in the island barangay of Sagasa.



### **Component 3: Assistance in the Establishment of Women-led S & T-based Livelihood for the three municipalities (Antequera, Balilihan and Bien Unido)**

The *first* activity conducted under this component was the *Community Life Competence Processes (CLCP) Workshop* last December 05, 2014 with the participants coming from the different women's organizations of the two (2) municipalities of Antequera and Balilihan. In Antequera there were 18 women participants attended; while in Balilihan there were also 18 women participants attended with 5 facilitators/resource persons. In Bien Unido, the CLCP workshop was conducted last February 27, 2015 attended by 28 participants of which 93% were women (*Female-26; Male-2*) with 5 facilitators/resource persons.

Prior to the workshop, *site assessment for establishment of women-led, S & T-based enterprise* was done by the participants from the three (3) project sites. The result of the assessment was the basis for planning of the participants during the workshop. With the assistance from the office of World Fish through Dr. Enrique Avila and Engr. Marcial Tanggaan of DOST, Bohol, each participant identified, assessed and formulated their individual plans using Community Life Competence Processes approach. The technology sounds new to us. That's why even the project staff were very much interested to learn from this new technology. After the workshop, the approach sounds familiar.

The *second* activity was the *Technology Needs Assessment* conducted to all the 3 municipalities. In Antequera and Balilihan, it was conducted last November 3, 2015 with 19 women participants and 2 facilitators/resource persons. While in Bien Unido, it was conducted last November 24, 2015 with 26 participants of which 93% were women and 4 facilitators/resource persons. All women's organization of the 3 municipalities had undergone the assessment processes.



To complete the knowledge acquired by the beneficiaries through this initiative, the partner women POs were brought to a study tour/exposure trip to successful greenhouse, urban and containerized gardening projects in the province. Last December 29, 2016, participants from Antequera, Balilihan and Bien Unido visited the Maribojoc Demo Farm for integrated organic farming technology in Maribojoc, Bohol; in Manga National High School of Tagbilaran City for urban/containerized gardening and in the Social Action Center Greenhouse Project in barangay Tiptip, Tagbilaran City for greenhouse gardening.

## **Learning and Insights**

The project has both positive and negative impact. During the *Stakeholder's Forum* and study tour/exposure trip last December 29, 2015. A total of 28 women delegates participated in the joint activity from the 3 municipalities. Each participant shared their learning and insights as well as their experiences during the project implementation.

The project gave opportunities to women's organization in availing the new technologies introduced by the project. It also enables them to participate in all activities conducted such as trainings and seminars considering that they also have good skills that can be used in promoting the technology at the community level.

## **Project Impact**

After 3 weeks of planting and caring their hydroponics garden, the women were able to harvest their planted lettuce in their greenhouse. Some of the harvests were shared among the women PO members while some were sold to the teachers. They were able to generate Php600.00 income.

Likewise, as a showcase in the barangay, the technology truly resulted to a positive impact in the community. Two (2) families replicated the technology and constructed the ferrocement tank in their own respective houses which are now functioning.

Generally, the project changed the habits and values of the people in the community towards conservation of the environment while they are implementing their individual environment-friendly project.

## **Recommendations**

Currently, the hydroponics practitioners and partners are still dependent on the nutrient provider based in Cebu. if we still always rely on the nutrient solution provider, our partner POs have no room for improvements since the technology depends on the availability of the said solution. Hence, it is highly recommended that a training on the preparation of nutrient solution or any similar science and technology be provided to all the partner POs and practitioners for their own sustainability.

## PHOTO DOCUMENTATION



*Photograph during the turn-over of cheque by Engr. Marcial Tanggaan, PD, DOST-Bohol to Ms. Emilia M. Roslinda, ED, PROCESS-Bohol*



*Photograph of newly acquired laptop  
Model: Apple Mcbook Air 11.6*

## Capacity Building:

### Community Life Competence Processes Workshop in Antequera & Balilihan



*Ms. Emilia M. Roslinda, ED-PROCESS-Bohol and Engr. Marcial Tanggaan, Provincial Director, DOST-Provincial Director participated and facilitated the CLCP Workshop last December 5, 2014.*



*Dr. Enrique Avila, World Fish facilitated the CLCP workshop with participants from Antequera and Balilihan at Abatan Center, Dela Paz, Cortes, Bohol*



*Participants actively participated in each activity given by the facilitator.*

## Community Life Competence Processes Workshop in Bien Unido, Bohol



*Ms. Cirspina Rosales, the CLCP workshop in Bien Unido, Bohol was successfully conducted last February 23, 2015 together with Engr. Marcial Tanggaan, DOST and Mr. Joel L. Gubot of PROCESS-Bohol*



*Participants actively participated each activities...during workshop...*



*...and during presentation of workshop output.*



## **Training on Hydroponics/Urban, Containerized Gardening and Rain Water Management in Antequera and Balilihan, Bohol**



*MS. Aida Novero of City Agriculture Office with Joel Gubot and Rose Arig of PROCESS-Bohol helping together in facilitating the 1-day training.*



*Participants both from Antequera and Balilihan did their hands-on hydroponics gardening preparation.*



*Mr. Joel Gubot, Project Staff showed the participants how hydroponics gardening system works and the containerized gardening system in our present climate situation.*

## **Hands-on Training on Hydroponics/Urban, Containerized Gardening and Rain Water Management in Sagasa Island, Bien Unido, Bohol**



*Mayor Nino Rey Boniel, Bien Unido participated the training in Bien Unido together with the training team and technical person Max Almedilla.*



*While the women members doing the hands-on training on hydroponics gardening, men is also preparing the greenhouse garden.*



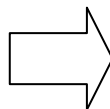
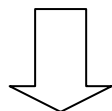
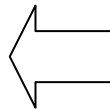
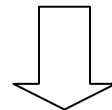
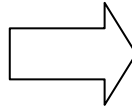
*Left: Hydroponics gardening handed by our partner PO member in Sagasa Island, Bien Unido as finish product during the hands-on training*

*Right: Mini-greenhouse showcase in the same island.*

## Hands-on Training on Rain Water Management and Construction of Ferrocement Tank in Sagasa Island, Bien Unido, Bohol



*During the construction of ferrocement tank in Sagasa Island, Bien Unido, Bohol.*



*Showcase of ferrocement tank in Sagasa Island, Bien Unido.*



## Training on BIOGAS and Technology Needs Assessment in Antequera, Balilihan and Bien Unido, Bohol



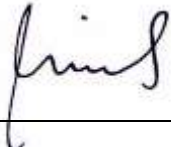
*Mr. Leadro Gamayot of OPV and together with Engr. Tanggaan of DOST, thraining was successfully conducted last November 3, 2015 in Antequera and Balilihan.*



*Together with Mr. Roberto Rosales and Crispina Boniel facilitated the BIOGAS training and Technology Needs Assessment in Bien Unido, Bohol last November 24, 2015..*





We certify that this report is correct:			
Name	Joel L. Gubot	Title	Project Coordinator
Signature		Date	December 31, 2015
Name	Emilia M. Roslinda	Title	Executive Director
Signature 		Date	December 31, 2015