

**Midterm Impact Assessment Study of Special Area for  
Agricultural Development (SAAD) Program**

**SUPPLEMENTARY CASE STUDY REPORTS**

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## **RATIONALE**

The Special Area for Agricultural Development (SAAD) is a locally-funded program of the National Government through the Department Agriculture with the aim of uplifting the lives of farmers and fisherfolk in the poorest provinces in the country. The target beneficiaries are the poorest farmers and fisherfolk living in far-flung areas and have not been easily reached through the regular DA development programs. Through the production and livelihood projects under the SAAD Program, the selected beneficiaries were socially prepared through orientation meetings, trainings, and monitoring of activities to ensure proper implementation of the project. Different interventions were introduced to each beneficiary in accordance with their needs such as in food production systems to include delivery of inputs (seeds, fertilizers, biologics, pesticides, production tools (garden tools, rain shelters, irrigation facilities for farmers and oyster spat collector, banca and fishing gears for fisherfolks) and livelihood projects as duck, small and big ruminants for animal raisers. These interventions were geared towards improving farm productivity to improve their food supply for consumption and augment their income thereby easing the wrath of poverty in the area. In so doing, these will improve and uplift their economic conditions and welfare of the family and the community.

In consideration of travel restrictions during the month of November 2021, the project team judiciously selected the province of Sorsogon to be the case study site. Four (4) cases were identified and studied: (1) Oyster farming in Brgy. Ginablan, Pilar; (2) Integrated Farming (Vegetable-Duck-Swine) in Brgy. Sipaya, Juban; (3) Upland Rice and Vegetable Production in Brgy. Puting Sapa, Juban; and (4) Duck-raising in Brgy. San Bartolome, Sta. Magdalena. These project sites were visited and

interviews with beneficiaries were conducted to gain in-depth understanding of their practices, experiences, and insights before and after the SAAD implementation, in order to explore best practices, investigate and understand critical issues, identify constraints, determine potential opportunities, and provide recommendations on specific areas for improvement.

Sorsogon is one of the provinces in the Bicol Region that is situated in upland, lowland, and coastal areas where farmers and fisherfolk dwell. This province has a high poverty incidence as they are frequently visited by typhoons and other calamities making agriculture development slow-paced. In the province of Sorsogon, the proportion of poor Filipinos whose per capita income is not sufficient to meet basic food and non-food needs was estimated at 40.7% in 2012, and went up to 41.3% in 2015.

## **CASE STUDY ON OYSTER FARMING**

### **“Oyster Farming as an Alternative Source of Livelihood”**

#### **Background**

Mr. Alex A. Solomon is a seasoned fisherman who lives in Brgy. Ginablan, Pilar, Sorsogon (12.9570, 123.705 12° 57' North, 123° 42 East) with an estimated elevation above sea level of 16.9 meters. He is 47 years old, married with four (4) children: 2 males and females, an elementary graduate, and speaks their native dialect (Bicol).

He has been engaged in farming activities for about 25 years hand in hand with his exposure in fishing for about 20 years in the locality. He resides along the estuarine river bank system of the municipality. Before becoming a SAAD beneficiary, he sourced-out his family needs through copra or coconut production owned by his parents, fishing activity utilizing a small fish coral impounding or capturing a variety of species, and limited oyster farming for subsistence.

#### **Participation in the SAAD Program**

##### ***Program Management***

The involvement of Mr. Alex to the SAAD program was facilitated by his being a member of Ginablan SAAD BFAR Organization, a fisherfolk organization in the municipality where partnership and agreements were established with the implementers of the SAAD program. Hence, within the established M&E system, the Local Government Unit (LGU) monitors and evaluates his project periodically.

##### ***Social Preparation***

Being a typical subsistence fisherman and a member of a SAAD-BFAR fishing association in the locality, he attended inception meetings and other relevant

social preparation activities with respect to the awarding of the SAAD interventions. He was oriented about the SAAD program and its various interventions which were all intended to especially help marginalized fisherfolk to cope with their living conditions economically. He decided to adopt the oyster production technology introduced by SAAD. He was not able to attend the formal training about the technology. Hence, he implemented the technology based on his experiences as a seasoned fisherman.

### ***Production and Livelihood***

As a SAAD beneficiary, Mr. Alex received aquaculture inputs for oyster farming: 5 sets of oysters spat collectors, boat, drum, and nylon rope as fixing material in 2018.

The spat collector mentioned above is a cylindrical hardened plastic where the spats of oyster are expected to settle and grow through time until harvesting period. The small boat was provided for easy transporting of materials, monitoring of the oyster farm, and harvesting of oysters. The units of drum were intended to be used as a mounting or fixing device for the spat collectors. The size of the nylon rope provided was too small and not suitable for the spat collectors. Hence, he procured a larger size of nylon twine (*kuralon*) which serves as his counterpart in the project.

The total area occupied by Mr. Alex's oyster farm is only 25 square meters and is farmed once a year.

### ***Marketing Assistance and Enterprise Development***

Mr. Alex has not yet been involved in any local market study, technical training on entrepreneurship, value adding, and audit of livelihood enterprises initiated by SAAD.

## **Outcomes**

### ***Program Management***

Alex, as a partner-beneficiary of the program, was periodically monitored for his oyster project through the barangay local government unit (BLGU). We understand that this monitoring mechanism established by SAAD starts at the barangay level (BLGU) and provides a routine monitoring report of project status and progress. This BLGU M&E report is submitted to the assigned municipal level LGU (MLGU) officer who then summarizes and transmits to the SAAD focal person in the provincial and regional levels.

### ***Social Preparation***

The project orientation meeting conducted by the SAAD Team enhanced awareness of fisherfolks including Alex about the goals and interventions of the program. As a member of the fisherfolk association, he was given the opportunity to access the special assistance and technology interventions offered by the DA-SAAD program to poor fishermen like him.

### ***Production and Livelihood***

In setting up the oyster spat collectors, Alex adopted the SAAD-recommended vertical hanging method of oyster farming, i.e. whatever volume of spats attached in the collector is grown until harvest. However, he encountered problems and difficulties in adopting the said farming method. According to his family, the vertically hung plastic spat collectors were entangled during farming operations due to underwater pressure and movements caused by winds and currents. The entanglement, if unchecked for some time, will limit the space or area of catching spats for grow-out and eventually affect growth and productivity of the farm.

Barnacles and other unwanted organisms in the spat collectors were indeed noticeably spotted during the visit to Alex's oyster farm.

To address this problem of entangled spat collectors, he adapted and changed his oyster farming set-up from vertical to horizontal method of hanging the oyster spat collectors. Instead of using the drum as floaters or anchors, bamboo posts were used to fix the oyster bed. This innovation in his oyster farming technique was a significant adaptation in coping with unforeseen problems on the oyster farming technology adoption.

In effect, when Alex became a SAAD beneficiary starting 2018, his production increased in terms of volume and size of oyster harvest. He reported an annual production of 905 kg, 805 kg, and 985 kg in 2018, 2019 and 2020, respectively. An average of 99% of the total harvest was sold and about 1% was kept for home consumption.

Noting that Alex and his family earlier maintained a limited oyster farming area primarily for subsistence or home consumption, their adoption of SAAD introduced interventions enabled them to realize a reasonable stable income by sustaining their oyster production from 2018 to 2020 with initial sales in 2018 of Php 6,300.00 rising to Php 6,860.00 in 2020. So, although their oyster farm was small in area, they were able to approach its potential production capacity, and clearly able to augment their family income (additionally sourced from coconut farming and fishing).

Moreover, the SAAD oyster technology intervention also significantly contributed in enhancing family teamwork and gainful entrepreneurial participation of Alex's family members. The children helped in maintaining the oyster farm until harvest, and his spouse did the marketing of oysters while attending to other

household needs of the family. This evident commitment and involvement of all family members in the oyster livelihood farming activity was claimed by Alex and his family as a very positive social benefit gained from the SAAD project.

### ***Marketing Assistance and Enterprise Development***

The notable involvement of family members in carrying out the SAAD project is indicative of a possible formation of a family entrepreneurship - a prelude to initial formation of a community enterprise as SAAD envisioned to achieve in due course.

### **Initial Impact**

#### ***Improved household food consumption of partner beneficiaries***

Before becoming a SAAD beneficiary, Alex and his family were engaged in a limited oyster farming operation primarily for subsistence or home consumption only. As oyster production and income increased, Alex reported a notable increase in expenditures and budget on food; an increase from Php 2,000.00 in 2017 to Php 3,500.00 in 2020. Their improved household food consumption has been consistent with two other welfare indicators measured, i.e. maintained a 3x a day meal and no apparent incidence of hunger.

#### ***Increased income and improved economic status of partner beneficiaries***

Mr. Alex Solomon and his family declared that the intervention introduced by SAAD made their oyster farming profitable and has increased their household income. It helped augment their meagre income to assure their basic needs (for food and children's education) from 2018 to 2020 and sustained economic status as reflected by having a cemented and galvanized housing equipped with a standard toilet facility and source of water supply. In terms of asset acquisition, the Solomon family was able to acquire a television set and a cellphone for the on-line class of his sibling.

As indicated earlier, the SAAD oyster technology intervention significantly contributed in enhancing teamwork and entrepreneurial participation among family members - from production, harvest, and marketing. In the process, family resourcefulness and joint decision making initiatives were anchored on the family members' understanding of current problems in oyster farming technology. They ultimately claimed that this is indeed a positive social benefit gained from the SAAD project, i.e. enhanced social involvement, interaction, and commitment among family members. In summary, the oyster farming technology introduced as an additional viable source of livelihood and a form of assistance to sustenance fishermen by SAAD was able to meet their objective of increasing food supply, optimizing productivity and income and enhanced social benefits for the whole family.

## **Issues and Challenges**

### ***Social Participation***

Alex's experience exemplifies limited training and involvement in capacity building e.g. he attended only the project orientation/consultation.

### ***Production and Livelihood***

The initial production in the early stages of operation in 2018 was constrained by the minimal spat collection and entanglement of the oyster set up. While oyster farming is not a new fish farming technology, the introduction of another type of material for spat collection (e.g. plastic sheets) is new to the beneficiaries. It was noted that the plastic sheets have not been tried in the locality for effectiveness and efficiency in oyster production in comparison to the traditional farming practices in oyster culture. Critical lessons were learned by Mr. Alex Solomon in his process of adapting the plastic collection spats technique in oyster farming. First, the success of oyster culture is oftentimes dependent on the availability of spats in the area and the

suitability of the material to be employed for spat collection. Second, it is also important to consider the type or method of the culture system that is tested to withstand the environmental conditions of the locality (in this case, the strong underwater pressure and movements caused by winds and currents in the estuarine river bank). And lastly, the limited production volume may also be attributed to the limited input materials provided.

Unfortunately, Alex was not included as a participant in the scheduled technical training. His brother was initially selected, but was unable to attend due to his disability. His family requested for Alex to attend on his behalf, but was turned down by the training organizers.

Based on the in-depth interview for this case study, it was learned that although project monitoring by the Barangay LGU was undertaken, Mr. Alex Solomon was practically left alone when he encountered problems, issues and concerns concerning the implementation of the oyster farming project. While this motivated him into using his own decision-making initiative and resourcefulness to solve problems (may be viewed as part of positive impact perspectives), it seems that SAAD partner-beneficiary relationships and exchanges have either not been given priority or neglected, especially during the initial stages of the program implementation. As sustained adoption is an important condition for impact, sustainability plans and strategies supporting the continuous uptake of interventions/technologies must be incorporated in the SAAD implementation program to ultimately achieve impact.

### ***Marketing Assistance and Enterprise Development***

According to Alex, no local market study, technical training on entrepreneurship and value adding, and audit of livelihood enterprises activities were conducted by SAAD in their community.

### **Future Directions**

The expansion of oyster production areas and productivity around Brgy. Ginablan, Pilar, Sorsogon will improve production output and increase income hence, contributing to a substantial impact of the SAAD program in the fishery sector. In this case, allocating additional logistical support and materials for possible expansion in oyster farming (i.e. wider oyster beds/farms) will further promote participation among fisherfolk households thereby increasing volume of production in the locality.

Delivery of livelihood opportunities must vigilantly look into the technical considerations of available potential interventions according to their suitability to the local environment. For example, two particular concerns were raised in the case study with respect to the entanglement of the oyster spat collection (plastic sheets) and the viability of the material to withstand environmental conditions along the estuarine river bank system in Sorsogon.

Technical assistance, training, and regular monitoring and evaluation activities at the local level (including identification of in-situ concerns and problems faced) must be prioritized as part of the sustainability plans and strategies supporting the continuous uptake of SAAD interventions and technologies. More vibrant community participation and market orientation among targeted beneficiaries shall be an integral part of these sustainability plans.

The formation of family oyster enterprise as exemplified by the Solomon family enterprise can likely lead to a profitable community level enterprise too.

Hence, a strong community organizing initiative needs to be accounted for during the planning and implementation stages of the project. In oyster production, for example, relevant next stages towards entrepreneurial enterprises may involve production to post-harvest linkages for oyster shell utilization into lime and oyster sauce and paste processing, among others. To start, relevant market intervention and assistance may be piloted for community entrepreneurship. Empowerment strategies included in the plan for targeted individuals and associations need to be considered as well, to achieve successful community entrepreneurship as envisioned through the SAAD program.

## **CASE STUDY ON VEGETABLE-DUCK-SWINE INTEGRATED FARMING**

### **“More Food and Income in High Value Vegetable Gardening and Integrated Farming”**

#### **Background**

The climate in Juban is of Type II (Corona System); the average temperature throughout the year is from 24 to 29°C with colder months from December to February and hotter months during April to June. Rainfall is observed year-round but heavier rainfall is observed during May to December (85 to 163 mm/mo.). This climatic condition is highly conducive for growing rice and vegetables in the uplands and low-lying areas for food and income for the family.

The respondent, Ms. Rose Ann Deocariza is 33 years old, married with one child, a Roman Catholic, and a high school graduate. She is a plain housewife and a member of the Pantawid Pamilyang Pilipino Program (4Ps) of DSWD receiving an allowance for the education or schooling of her child. Her husband is a day-to-day laborer tending services in other farms or construction projects as a source of income. Before becoming a SAAD beneficiary, she was growing vegetables in her backyard garden planting eggplant, finger pepper, tomatoes, and taro or *gabi* for home consumption. She used to maintain a garden of about 75 square meters at the side of their dwelling house and also raised poultry (chickens) as an additional source of food and income.

In 2019, the DA-SAAD management capitalized the existing association in the locality established 15 years ago. Specific for the SAAD program, they formed a group called the Sipaya Womens' Association with 33 female and 2 male members. The association members were also recipients of the 4Ps of the DSWD in the locality.

## **Participation in the SAAD Program**

### ***Program Management***

In Brgy. Sipaya, Juban, Sorsogon, the DA-SAAD local level implementers, in partnership with the local LGU, initiated and coordinated the establishment of a livelihood project in the barangay and capitalized on the existing association as recipient of the project. The DA-SAAD implemented the program through provision of technology/interventions suitable for the locality including materials and techniques to enhance vegetable, poultry and swine production. The project implementation guidelines (contained in the SAAD Manual of Operations) was imparted to the members through meetings and consultations involving local level DA-SAAD and LGU officers who regularly monitored the project implementation and progress.

The project was implemented in stages representing the three components of a coordinated Integrated Farming System. The first component involved a high value vegetable gardening. This was followed by the introduction of duck production in the second stage and swine production in the third stage.

### ***Social Preparation***

From the existing 15-year old association in Brgy. Sipaya, Juban, Sorsogon, an (almost all) women association called Sipaya Women's Association was formed in 2019 with 35 members (33 females and 2 males). They were all identified as beneficiaries of the SAAD project and at the same time they also belong to another poverty related development program, the 4Ps of DSWD.

As association members, they were invited to attend several training programs coordinated by the local level LGU/SAAD officers and held right in the barangay. The training sessions were oriented towards imparting the DA-SAAD program and

implementation guidelines, and no indications were made about whether the specific training given were geared specifically also for leadership, values formation, or organizational development. Subsequent meetings and consultations were conducted by the LGU/SAAD officers to monitor the progress or status of the project on a regular basis.

As a loyal member of the association, Rose Ann was diligent in attending the training sessions, as well as all subsequent meetings and consultations. As an active member, she became aware of the Sipaya SAAD program and was regularly updated of upcoming events and related association activities as well as its problems and progress. She also effectively contributed in providing inputs on the status and progress of the project for the M&E report prepared by the local level SAAD/LGU officer.

### ***Production and Livelihood***

#### **Integrated Farming System Component 1 - *High Value Vegetable Farming***

Before becoming a SAAD beneficiary, Rose Ann and family were growing vegetables in their own backyard near their house. They planted eggplant, tomatoes and pepper using a native/traditional variety and employed the traditional approach in home gardening. All produce from their backyard garden were used for home consumption to meet some of the family's food requirements.

As a member of the association, she actively joined in the communal vegetable gardening project supported by SAAD in 2019. Two (2) areas owned by the members were used for the project (source: Rose Ann and the President of the Sipaya Women's Association). The first is an open area located in the plains near the barangay. The second area was a coconut plantation in an upland (slightly sloping) area in the barangay. The utilization of both these open area and coconut plantation

maximized the association's potential to use available land to provide additional food and income for the association member's households. In this case, the association did not rent nor lease the area but instead they agreed that the association supplies the landowner's family with vegetables from the association's harvest, thereby providing them with nutritious food supply on a regular basis.

For the vegetable project, the DA-SAAD distributed 50 packs/sachets of assorted high value vegetable hybrid seeds of tomato, eggplants, pepper, squash, okra, cucumber, carrots, and broccoli. They were also provided with garden tools such as rake, hose, shovel and sprinklers which they used in their production system.

Likewise, technical training particularly on crop production was conducted to empower the members with knowledge and skills on how to produce and care for the different vegetable crops.

Employing the technologies learned from the training, they prepared the land and seedbeds for sowing the seeds of tomato, eggplants, pepper, squash, carrots, and broccoli to produce seedlings for planting. Other seeds (okra, cucumber) were planted directly in plots.

The seeds and seedlings were planted in plots or in beds in an open area and under coconut trees. The open area was thoroughly prepared through a tractor rotavator, then plots were prepared to plant the seeds or the seedlings and cared through watering, weeding, pest management until harvest. Likewise, the area under coconut plantation was cleared of debris, plowed, and harrowed using an animal drawn plow. Plots were prepared to plant the seeds and seedlings and cared (watering, pest management-weeding) until harvesting. The harvests were bundled and or packed and sold in a *tiangge* present in the locality. The proceeds were deposited in

the association for capital build up and for financing succeeding operations or financing other production activities (ducks).

The vegetable production project later stopped in 2020 due to limited buyers during the pandemic. At that time, mobility was very limited due to travel restrictions, lock downs and quarantine. With travel and transport restrictions, a huge surplus of vegetables in the barangay resulted with extensive wastage (as vegetables are highly perishable) and subsequent loss of income. Most of the time during this period, the surplus vegetables were no longer sold but were distributed within the community, especially among family members and friends.

In the meantime (during the pandemic in 2020), Ms. Rose Ann planted native/traditional variety of eggplant and gabi and other crops in her small garden located near their house for consumption. This provided her source of food for the family.

In 2021, the association planted vegetables in a home garden (about 200 sq. m.) using native/traditional varieties of eggplants, tomato, finger pepper, sweet potato, cassava, kangkong, and lemon grass exclusively for the association members' home use. At this time, the association members shifted back to using the traditional seed varieties as the hybrid vegetable seeds distributed by DA-SAAD did not reach them. The members cared and managed the association home garden and were allowed to gather/harvest vegetables for home consumption. They also collectively harvested vegetables from the home garden during social gatherings and community festivities, thus saving their meagre individual cash resources.

## **Integrated Farming System Component 2 - *Duck production***

Aside from supporting vegetable production, the DA-SAAD also provided the Sipaya Women's Association with 50 pieces of ducklings and accompanying nets to start duck production.

The 50 ducklings were raised in a separate open area with access to a pond wading area in the barangay. The association built a shade house and used the nets to enclose the area so that the ducks can be raised as free range. It was evident that the DA-SAAD did not provide any additional inputs (e.g. feeds or other required inputs for duck production). Nevertheless, the Sipaya Women's Association members recognized that they need to provide counterpart inputs to enable a viable duck production. They readily identified the income they earned from the sales of vegetables generated during the season to finance the essential input requirements for successful duck raising. Thus, all necessary requirements for raising ducks were met without giving additional burden to the association members to shell out their family cash resources to finance the required investments for duck production.

No specific training on duck production was mentioned to have been given to the members. However, they said that whenever problems arise, they coordinate with the LGU-DA or DA-SAAD for consultation (e.g. disease outbreak and other technical matters). Additionally, the members pointed out that they were closely monitored by the local level DA-SAAD project implementers.

In the year 2021, they were again provided with 300 heads of ducklings. They continued to raise them as free range in an open area. They were also provided with a shade house (shelter) for egg production as the ducks should be provided with egg laying area for easy harvesting and security. They were again provided with nets to

enclose the area to allow the ducks to roam around and have access to the adjacent pond wallowing area.

In addition, the association was provided with an egg incubator for future balut making - a value adding and a potential entrepreneurial production endeavor. They mentioned, however, that the egg incubator has not yet been used. According to the association president, the incubator is still in his custody but will soon be used. At that time, fresh duck eggs continue to be saleable in the local market. In the future, however, it is expected that as some other associations in the vicinity also become successfully engaged in duck raising, a surplus of duck egg supply may occur which local demand may not be able to readily absorb. The future direction leads to the need to diversify the duck egg product line through value addition (e.g. balut and red salted eggs) to realize greater demand and higher commercial value in the marketplace.

### **Integrated Farming System Component 3 - *Swine production***

In the same year, the DA SAAD added another intervention, the swine dispersal program. This completes the overall plan to develop an integrated farming system for the association with three components: vegetables (home garden), duck production and swine production.

As for the second component (duck project), savings from sales of vegetables were used to finance the requirements of the project like feeds, housing, and other materials; and this was managed by the association.

For the third component (swine production), the association received one mother sow to reproduce and distribute to other beneficiaries. The agreement is that the beneficiary will first raise the pig until it will bore piglets. From the piglets, two of the piglets will be shared to another beneficiary who could provide the housing. The

same strategy will be applied in the future thus distributing the radiation effects to others.

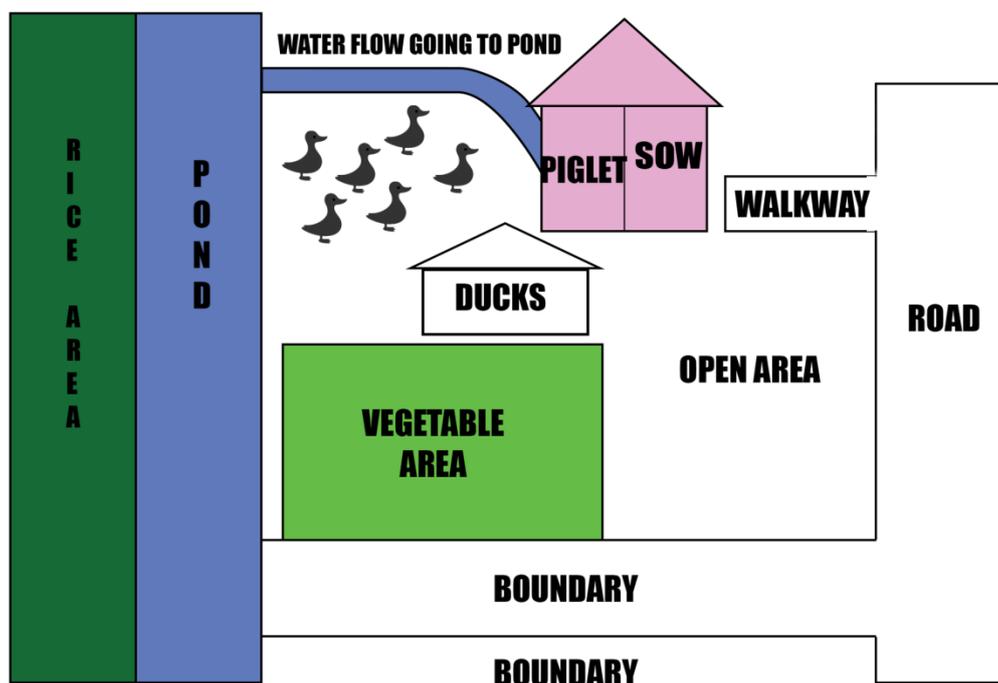
The idea behind the integrated farming system strategy with vegetables (home garden), duck, and swine components was that: One side of the area was provided with a pond (near the duck area) where ducks could wallow. Adjacent to the pond area is a rice field making use of the water from the pond for irrigation.

Integrated waste recycling was evident in the area although it seems that it should be monitored better for proper design and sustainable implementation. Wastes from the swine project and the litters of ducks were naturally dumped in one area for natural composting to fertilize the vegetables and other plants. Waste water with some feed litters from swine were diverted in the pond through a water way or drainage where some ducks feed on swine litters. This waste management implementation must be checked to reduce pollution in the area and assure that the system is properly implemented in a sustainable way.

Ultimately, the Sipaya Women's Association SAAD supported integrated farming project is expected to provide a diverse source of food and income for the association members and their families, maximize use of the land and resources and reduce pollution in the area with proper waste management (Figure 1).

**Figure 1**

*Layout of the Integrated Farming Project of the Sipaya Women's Association*



***Marketing Assistance and Enterprise Development***

According to Rose Ann and the president of the association, no local market study, conduct of training on entrepreneurship and value adding, provision of logistic support, and audit of livelihood enterprises was conducted yet in their locality. Due to the pandemic situation, marketing of vegetable and duck egg products was confined at the barangay “tiangge”.

**Outcomes**

***Program Management***

Coordination was done from DA-SAAD Central office to the barangay level during the information dissemination campaign of the proposed projects to the province/municipality. This led to identification of interventions in accordance with their need and resources so with the identification of beneficiaries. The implementers capitalized on existing farmer associations and members of 4Ps of the DSWD as

recipients of the intervention to represent the resource poor farmers and fisherfolks. The project implementers drafted the manual of operations on intervention to adopt specific to the association through conduct of meetings to plan the implementation of the project. Monitoring was a partnership of LGU and SAAD (implementers) to check the status and progress of the project.

### ***Social Preparation***

The Sipaya Women's association with 35 members was organized as partner-beneficiary and implementer of the project. Project orientation was done at the barangay through a meeting coordinated and implemented by DA-SAAD and local government units. Rose Ann and other members were also trained in crop production to gain knowledge and skill in production processes making her empowered and confident in doing the activities.

### ***Production and Livelihood***

As to production, as reported by Rose Ann and the president of the association, the first and second area were planted with a hybrid variety of squash, finger peppers, string beans, broccoli, eggplant, okra, cucumber, and carrots, all of which were provided by SAAD. They reported an average production of 40 kg per cropping season. This provided them an estimated production of 320 kg (8 crops) and with average price of Php 25/kg. A net income of Php 8,000 per cropping was realized. With two planting seasons, they were able to generate an income of Php 16,000. The proceeds were deposited in the association for capital build-up and for financing the operations and succeeding projects of the association.

As previously mentioned, the association was given 50 ducklings and nets, and was provided with shade to secure the area and to protect the ducklings in year 2020. The ducklings were fed with duck feeds supplemented with rice bran. The pen

(enclosed area) was cleaned to prevent pests and diseases. The eggs laid were then sold in local markets in nearby areas. In November 2021, only 20 ducks remained from the first batch. Some ducks died of disease while some were already culled for consumption and sale. Although the president reported that the ducks were already producing eggs and sold to local markets in the barangay, no estimates on sales were presented though he claimed that all sales were recorded and presented to the members during their regular meeting.

As also previously mentioned, the association was provided with swine for breeding and multiplication. Once the swine produced siblings or piglets, the caretaker would share the piglets to another member who has a housing as initial stock to raise sow and other piglets for fattening. Two additional farmers became beneficiaries of this project from the piglets produced by the first recipient.

#### ***Marketing Assistance and Enterprise Development***

No market study, training on entrepreneurship/value adding, provision of logistic support, and audit of livelihood enterprises was conducted yet. The integrated farming project is still at an infantile stage of implementation with still minimal produce/products for commercialization. Most products were still used for home consumption while the rest are for their local community. With the expected increase in volume of production due to continuous provision of agri-inputs and as more members are involved in entrepreneurial activities, the need to conduct these activities is very necessary in order to expand their market and ultimately establish a working communal agri-enterprise.

## **Initial Impact**

### ***Improved household food consumption of partner beneficiaries***

According to Ms. Rose Ann, her own home vegetable garden had provided food for her family. Likewise, her involvement in the association in doing vegetable gardening provided her shares of vegetables for home use thus, also saving her cash used in buying these commodities. Despite pandemic and other calamities, the family still managed to eat sumptuous meals three times a day and no incidence of hunger was experienced. They were able to consume a variety of food (go, grow, and glow food) that nourishes their body and minds thus having no incidence of malnutrition during and after SAAD years.

### ***Increased income and improved economic status of partner beneficiaries***

Ms. Rose Ann informed the group that they do not receive cash benefits from the proceeds in their production systems as all the sales were kept in the custody of the association. This was used for financing other activities in duck and swine raising. According to the president of the association, proceeds of the entrepreneurial activities will also be shared among members as soon as there is sufficient savings or capital build up.

Based on her record, their household income increased from Php 8,000 (baseline) to Php 10,000 with an increase of income of Php 2,000 during and after SAAD. This was, however, mostly due to the off-farm work of her husband. Their amount of debt of Php 5,000 in a year has not changed before and during SAAD. The same trend was observed in the amount of savings before and during the SAAD year.

The tenure status of the dwelling house of Rose Ann was rented until the reporting period. There were no changes in their housing material as to main flooring (cement) and main roofing (galvanized iron), but their main wall originally made of

plywood improved to cement blocks. The house is provided with electricity, and water supply from the community water system. They also have their own flush toilet. No additional assets were bought after becoming a SAAD beneficiary. The mode of transportation in the area was a public tricycle. She has one child enrolled in elementary school that is reachable by walking before SAAD and now by private tricycle. She has a monthly budget of Php 3,000 for food, but has no health insurance aside from PhilHealth, and no budget allocation for recreation.

### ***Other Benefits from SAAD***

Aside from readily available food as immediate benefit, Rose Ann also reported that association members no longer shell out cash for contribution during festivities since they use the project resources to finance the activities. This likewise strengthened their ties/relationships in the family and in the community. Working with the association allowed her to use her time wisely and productively while enjoying the partnerships/camaraderie among members.

Further, as narrated by the president of the association, they had good working relationships with the SAAD implementers as evidenced by the yearly distribution of intervention at the association. With good farm performance, funding agencies will be encouraged to provide financing and interventions to the association.

### **Issues and Challenges**

In vegetable production, the members of the association experienced surplus in volume of products produced during pandemic due to limited mobility. With limited mobility to the marketplace, surplus of vegetable supply led to spoilage and subsequent loss of income.

In duck production, the second batch of ducklings suffered from a disease which was diagnosed as cholera. They reported the incident to the LGU office and

were monitored and given treatment by the attending veterinarian of the LGU. About 50 ducklings died from the disease and were disposed of properly to avoid further outbreak. A more sanitized and organized production system should be devised to avoid air pollution and waste build up in the vicinity.

Some association members like Rose Ann were also very interested in swine raising but had no capacity and capability to build her own housing for pigs, thus unable to become a beneficiary of the hog dispersal program.

### **Future Directions**

The production of vegetables could be improved by integrating more crops in diversified farming schemes like in integrating vegetables in coconut plantations. Practices like organic fertilization, integrated pest management, and soil-water conservation through cover crops could reduce cost of production in farms. To reduce the cost of seeds, the association may consider establishing their own seed production project to produce vegetable seeds of traditional varieties or may establish linkages with existing seed growers.

Proper preservation of vegetables may also be done to prolong the shelf life of the products. Better yet, value adding through improved food processing/preservation and packaging may also be introduced in the community. This will involve trainings and seminars for members of the association along with the provision of necessary tools and implements.

To sustain the project on vegetable production, strengthening the marketing systems should likewise be done. Local market study should be conducted in anticipation of increasing volume of production of vegetables and other products. Logistic support as to provision of transport facilities or equipment is also needed.

For duck production, proper hygiene and sanitation is very important especially if it is part of an integrated farming system. Proper disposal and use of waste should be a major concern to avoid air or water pollution. Technology intervention may include organic farming practices like organic fertilizer making and its utilization to vegetable farms, integrated pest and disease management practices in duck raising to avoid disease outbreaks. Regular monitoring should also be done to mitigate measures as they arise and in occurrence of pests and diseases, among others.

For swine production in the integrated farming systems, the waste disposal management should also be improved to avoid waste build up that could create pollution in the area. If this project would be expanded in a wider scale, the inclusion of a biogas digester would be necessary to convert the waste into gas usable as fuel for the households. This system could be managed in communal farms for members with the capacity of producing their own swine housing and providing feeds and other materials needed by the enterprise. The provision of energy saving devices or lighting using solar lamps could also be done in the systems so as to save energy for the systems. This could be an answer to the escalating fuel and energy (electricity) prices the country faces today. For individual farmers raising swine, organic fertilizer making through waste composting is highly encouraged.

Since farmer beneficiaries are resource poor, they should be capacitated through provision of more tools and equipment and other interventions to be able to fully participate in the program. Some farmers request financial assistance, if necessary, to initiate a project of their needs. Access to credit systems and marketing systems could also be sought as additional complementary interventions.

## **CASE STUDY ON RICE AND VEGETABLE PRODUCTION**

### **“Improve Upland Rice and Vegetable Production”**

#### **Background**

This case study was conducted in Brgy. Puting Sapa, Juban, Sorsogon. Puting Sapa has a total population of 927 that represents 2.63% of the total population of the municipality of Juban. Puting Sapa is situated at approximately 12.7737, 124.0103, in the island of Luzon. Elevation at these coordinates is estimated at 206.9 meters or 678.8 feet above mean sea level ([phil atlas .com/Luzon/ro5/sorsogon/juban/putting\\_sapa.html](http://phil.atlas.com/Luzon/ro5/sorsogon/juban/putting_sapa.html)). The barangay has a total land area of 848 sq.m. with plain topography and wet and dry tropical climate. The area is mostly agricultural with agriculture as a major source of income. Major crops grown are coconut (60%) and banana, fruit trees, vegetables and root crops (luya) with 10% each. The place is situated at the foot of Mt. Jormajan and Bulusan Volcano abound with thick forests covered with tall and huge trees that give off clean and cool air which sustain life. Its mountain offers limitless land for food production. People tend to produce a variety of food crops for their daily consumption and generate more income to purchase some basic needs of the family. It has long winding rivers teeming with fish. Its water is clean, fresh, and crystal clear. It also has springs and brooks that supply potable water to every household in the barangay.

Mr. Vidal Retoma Jr. is 43 years old, married with 7 children, and an elementary graduate. He is an upland rice farmer tilling about ¼ ha. He also plants other crops such as cassava and some vegetables as home garden. He also works in construction as an additional source of income. He is a member of the association to avail of the interventions offered by DA-SAAD.

## **Participation in the SAAD Program**

### ***Program Management***

The SAAD program was introduced to the barangay through a meeting conducted by LGU and SAAD. They were presented with the intervention of upland rice production and vegetable home gardening. Project plans for the association were crafted during meetings and presented to project implementers for approval and implementation. During implementation, the project activities of the association were closely monitored by the project implementers.

### ***Social Preparation***

To avail of the intervention, the farmers of Brgy. Puting Sapa were asked to form an association. This newly organized association had an initial 35 members and now has 70+ members already registered in DOLE. Some members were also members of 4Ps of the DSWD. Likewise, they were oriented on the project plans and programs to make them aware of the project details, its scopes and potential benefits derived from it.

### ***Production and Livelihood***

According to the president of the association, all interventions were delivered to the association through the LGU and SAAD. The members were given an option to select what intervention to get according to their needs, availability of land and capacity to do the job. Further, they were provided training in crop production to enhance their knowledge and skills in farming. These two crucial steps are very necessary to capture the real needs of farmers and empower them to become capable and capacitated in doing their production endeavor.

Mr Vidal Retoma was a recipient of a small home garden vegetable production intervention package. In 2017, he received seeds of native/traditional varieties of

tomato, *ampalaya* and *pechay* which he planted in .025 ha or 250 sq m area. He took care of the plants in his home garden.

In 2018, he continued to plant okra and *pechay* through the intervention given by the Municipal Agriculture Office. He again planted *okra* and *pechay* in 2019 and with the seeds that he saved for the cropping year, he sustainably planted okra and *pechay* in his home garden.

Aside from vegetables, he received an intervention for upland rice production. In 2017 before DA-SAAD intervention, the farmer was already planting rice in his upland area using native varieties that were available in the area. He cleared the land, drilled the rice seeds, fertilized and weeded the area until harvest. In 2018, he was given ½ bags of inbred palay seeds and 1 bag complete fertilizer from DA-SAAD intervention. Such intervention was chosen due to its suitability of the area. The association devised a strategy called *bayanihan* for farmers to help each other in establishing their area in planting, weeding and harvesting and all other activities. This *bayanihan* system of working together facilitated their activities in the farm and reduced cost of labor. Although no intervention package was given to him in 2019, he was able to keep some seeds for next planting season. The next year 2020, he received another intervention package of 1 cavan palay seed and 1 bag complete fertilizer. The members again worked together in managing their rice farms from clearing up to harvesting. They scheduled their planting time so that they could help one another. Such practice cuts costs on cash as they no longer hire labor for the management of crops thus saving the cash for other uses.

According to the president of the association, other members of the barangay association were given sachets of various vegetable seeds of their choice which they planted in small gardens about 50 to 100 sqm.

The seeds were sown in bed for transplanting (tomato, eggplant, *sili*) while some were directly planted in plots or beds that they prepared. The members of the association also grouped themselves and shared the use of garden tools such as shovel, rake, hoe, sprinklers etc. For palay production, a thresher was also provided by DA-SAAD but was found not appropriate for upland areas as it is huge and heavy. For the meantime, the thresher was stored at the president's residence.

### ***Marketing Assistance and Enterprise Development***

Most of the rice produced were kept for seeds and home consumption, while the vegetables produced were consumed at home and the rest were sold in the local market. The products sold were transported to the market through a hired tricycle. It is noted that at this stage, the produce of the farmers was small and have not yet reached the scale for massive commercialization. At this stage, according to Mr. Retoma and the association president, no local market study has been conducted, nor any technical training on entrepreneurship, value adding, and audit of livelihood enterprises for the association were conducted since 2017.

### **Outcomes**

#### ***Program Management***

The project implementers DA-SAAD and LGU coordinated with the association in the barangay in the distribution of interventions and other project concerns. Likewise, regular monitoring through field visits and meetings were conducted to check the progress of the project.

#### ***Social Preparation***

With guidance of LGU-MAO and SAAD, the farmers of Brgy. Puting Sapa formed their association and also registered this with DOLE. Together with the association officers and members, they also assisted in the identification of

appropriate interventions according to farmers' needs. Good partnership between SAAD implementers and recipients evolved which led to smooth and efficient implementation of the SAAD program in the village. While the appropriate components of the technology intervention package are identified for the association, the members were allowed to choose specific interventions that they truly need based on their available resources. They were empowered through training and seminars to improve their knowledge and skills. When problems are encountered, they had opportunities to attend meetings and consult with local government focal persons/experts who provide them assurance and confidence in resolving their concerns

### ***Production and Livelihood***

As a recipient of native varieties of seeds when SAAD started its program in 2017, Mr Vidal Retoma grew a small home vegetable garden (250 sq m area) and produced 60 kg. of pechay, tomato, and bitter gourd. He used 10 kgs of his produce for personal consumption and 50 kg. for sale. He generated 2000 pesos in this sale given the average price of these vegetables was 40 pesos. In 2018, he increased his production to 120 kg of okra and pechay of which 100 kg was sold in the market and the remaining 20 kg was used for home consumption. He earned an income of Php 2,000 pesos as the selling price of these vegetables was only Php 20 that year. He did not earn any income in 2019 and 2020 because production declined to only 36 kg and 20 kg respectively; and all the vegetable production was set aside for home consumption and seeds for next season.

Before the SAAD program, farmers did not plant rice in the uplands. In 2018, when Mr Retoma was given ½ cavan of inbred palay seeds and a bag of complete fertilizer, he used these inputs to grow rice in the upland area. He cleared the area,

drilled the seed and followed these by regular weeding and fertilizing of plants. The next year, although he did not receive seeds and fertilizer, he continued to plant rice in the same area. In 2020, he was given more inputs: 1 cavan of palay seeds with 1 bag fertilizer. Mr. Retoma reported that planting high yielding rice varieties increased his production to about 10 cavans of palay in the same piece of land. He also claimed that he grows rice primarily for home consumption and to save seeds for the next cropping season. He also noted that the palay seeds and fertilizers given to him by SAAD in effect lowered his production cost in growing rice. This amount saved was used for other needs for the family.

Other association members who were provided with seeds and garden tools planted and harvested vegetables of their choice, which were used mostly for home consumption. Beneficiaries with extra harvests sold their vegetables in local markets to generate additional income.

The training provided them increased knowledge and skills in performing their farming activities. The *bayanihan* system of working together had strengthened their ties/relations in the family and the community as well. This made them share their resources (labor and other materials) as well as their learnings in their farming thus reducing cost of production. The opening of new areas and or planting of vacant areas in the backyards maximized the utilization of the land thus improving their production.

### **Initial Impacts**

#### ***Improved household food consumption of partner beneficiaries***

According to Mr. Retoma, his own home garden of vegetables had provided food and income for the family. Likewise, his *palay* production provided food for home consumption to meet their food and nutritional requirements. Despite surging

economic pressures, the family still managed to eat nutritious meals three times a day, with no incidence of hunger experienced. They were able to consume a variety of food (go, grow, and glow) that nourishes their body and minds thus having no incidence of malnutrition during and after SAAD years.

### ***Marketing Assistance and Enterprise Development***

The local market study, technical training on entrepreneurship and value adding, provision of logistic support, and audit of livelihood enterprises were not yet conducted as the project was small and is just starting. Once volume production of rice and vegetables will be saturated in the place the need to find market niches, entrepreneurial activities, and logistics will be in place.

### ***Increased income and improved economic status of partner beneficiaries***

Mr. Retoma informed the group that they were getting cash benefits from the proceeds in their vegetable production systems to finance their basic needs.

Based on his record, his amount of income increased from Php 20,000 (baseline) to Php 25,000 with an increase of income of Php 5,000 pesos during and after SAAD. He had no debt and had a savings of Php 1,000 in a year. The monthly budget of Php 2,000 increased to Php 3000 in the last year.

The tenure status of the dwelling house of Mr Retoma was rented until the reporting period. There were no changes in housing materials used from the baseline data to after SAAD years. His housing had a main flooring of cement, main roofing of galvanized iron/aluminum and a main wall of cement blocks. The house was provided with electricity, and a water supply from the community. It was provided with its own flush toilet. Mode of transportation in the area was a public tricycle or a jeepney. He has six children enrolled in formal education with high school level highest educational attainment. The school is reachable by using a private tricycle.

His monthly budget for food was Php 2,000 per month before SAAD, which had increased to Php 3000 during SAAD implementation. They had no health insurance aside from Phil Health, and also no budget allocated for recreation in a year.

### ***Other benefits from SAAD***

According to Mr. Retoma, the project in a way provided them some food for the family for daily living particularly during the pandemic and helped in the schooling of their children. Working with the association makes use of his time wisely and productively while enjoying the partnerships/ camaraderie among members.

### **Issues and Challenges**

The farmer members of the association and implementer maintained a close relationship, thus, there is a smooth implementation of the project. The implementers and the association had good communication contacts thus progress/status of the project was monitored regularly and arising problems were mitigated immediately.

The rice farmer Mr. Vidal Retoma experienced the wrath of rat infestations that he naturally controlled. Maintaining a clean culture in rice farms through weeding that could eradicate the breeding places of rats was a good practice. Likewise, planting alternative crops like camote as trap crops where rats could divert their source of food was also a good alternative. This even gave them source of vegetable for food.

Though they received a thresher to harvest their *palay*, the association members claimed that the machine was inappropriate for them as it was very big and huge for transport in the upland area rendering it unusable for them. At this time, the thresher is stored at the presidents' residence.

The proximity of the production areas (uplands) to their residences which were mostly in lower plain areas, the farmer is requesting for a carabao or draft

animal as intervention to facilitate mobility in the area. The carabao could be used as draft or for carrying supplies and materials from their residence to the production area.

For vegetable growers, some members claimed that the seeds were very limited as it is only intended for home gardens. Some farmers however had larger areas of land for larger vegetable production thus needing more seeds than the others. They also claimed that one or two kinds of seeds could be availed (*ampalaya*) with more amounts for commercial production for more income. The farmers with larger areas of production should be given more seed intervention to commercialize the products. For seeds of traditional varieties of vegetables, they could produce them on their own but for hybrids, access to seed sources could be sought.

Mr. Retoma used to market his vegetable products and nearby markets with vegetable growers who had surplus vegetables or those not used for home consumption. With more members joining the association, it is expected to grow a surplus of products, hence, the need for preservation of perishable products and/or value adding to create more products for sale.

### **Future Directions**

Mr Vidal Retoma and the other members of the association formed in Brgy. Puting Sapa found the upland rice and vegetable production project very useful and beneficial. To improve their project, they suggested that more vegetable seeds be distributed to them so that they can plant more areas sell more produce for higher income.

More appropriate equipment and facilities shared by members through the association will also benefit the farmers significantly as they continue to practice the bayanihan system. The delivery of interventions and good services through training

and consultations will continue to empower and capacitate them to produce sustainably their own food and create a viable source of livelihood and improve their economic plight.

For sustainable upland development, ecological practices such as organic agriculture should be advocated and taught to the farmers. This includes mixed or diversified farming, integrated nutrient management (use of organic fertilizers – composts and less use of inorganic fertilizer and integrated pest management).

In anticipation of the increasing volume of production of palay and vegetables brought about by increasing number of member beneficiaries and increasing area of production, the need for SAAD implementers (in coordination with the association members) to conduct a local market study, technical training on entrepreneurship and value adding and post-harvest handling and management will become imperative.

**CASE STUDY ON POULTRY-DUCK RAISING**  
**“Increased Food Supply and Income Through Duck Raising”**

**Background**

This case study was conducted in Barangay San Bartolome, Sta. Magdalena, Sorsogon (12.6863, 124,1263 12° 41’ North, 124° 8’ East) with estimated elevation above sea level of 14.6 m. It has a total population of 2823 as of 2020 (16.51% of the total population of Magdalena) with an average household size of 4.62 (2015 census).

The barangay was chosen as a recipient of the DA-SAAD program with the aim of uplifting the lives of the rural poor through provisions of interventions judiciously selected to support poor farmers and fisherfolks. The DA-SAAD provides livelihood options, farm inputs, farm implements and facilities that could improve their farm productivity and income to support their basic needs such as in food, health, education among others. They are also empowered and capacitated through training, on-the-job training, and demonstration sites.

Mr. Joel Furio, 44 years old, married with four children (all in formal education-high school), is a Roman Catholic by faith. He is a high school graduate and a farmer tilling land his parents owned. He plants rice once every three years as a source of food aside from raising native chickens and pigs in their backyards for food and income respectively. He is also a tenant of a coconut farm with about 500 trees for copra production with a sharing system of 50:50. In this arrangement, he bears all expenses in harvesting nuts and cooking the copra for sale. Aside from farming, he does construction work as needed and his wife also engages in handicrafts like buri bag making to augment their income for subsistence. The family has a monthly income of Php 3,000 or an annual income of Php 36,000.00

## **Participation in the SAAD Project**

### ***Program Management***

The SAAD project was introduced to Mr. Furio through a meeting in a barangay where they were offered ducks for raising. He was oriented about the project on its scope, terms and conditions, then the intervention was delivered to him to start the project. The project implementation was monitored regularly especially when there was a typhoon that damaged the project.

### ***Social Preparation***

For this duck raising project, Mr. Furio was given an orientation about the project, but the potential duck raisers in Brgy. San Bartolome were not organized into an association. They were not even trained before implementing the project. Although Mr. Furio's wife claimed that she had some previous exposure to duck raising, this may not be enough to conduct a successful duck production venture. This is one component emphasized in the SAAD protocol but missed in implementation on the ground. As reiterated, training is an important component to increase the knowledge and skills of farmers to efficiently and effectively implement the project. Duck raising is indeed a potentially lucrative enterprise, but it definitely requires some technical training and expertise.

### ***Production and Livelihood***

Being chosen as one of the beneficiaries of the DA-SAAD duck project, he was given 20 ducklings and production tools - nets and pawid to secure the ducks. He established his duck farm in the upland coconut farm area about 15-minute walk away from their house. As a counterpart, they bought the feed for ducks and provided the labor in raising the ducks. The family members performed all the activities in

producing eggs. They regularly fed the ducks and cleaned the area. Aside from ducks, he also raised pigs and native chickens in the area.

As indicated earlier, no training on duck raising was conducted in the barangay. Thus, they relied on the previous experience of the wife on the technology of duck raising.

### ***Marketing Assistance and Enterprise Development***

Just as there was no training on duck raising given to the DA-SAAD beneficiaries in Barangay San Bartolome, there was also no local market study conducted. And given the circumstances in the village, the technical training on entrepreneurship, value addition, provision of logistic support, and audit of livelihood enterprises were not organized.

### **Outcomes**

#### ***Program Management***

Meetings were conducted in the barangay where potential beneficiary farmers were informed by the DA-SAAD and the LGU implementing officers about the project and were oriented of the alternative interventions to improve their livelihoods. After delivering the intervention for implementation, monitoring was done particularly when the project was damaged by the typhoon.

#### ***Social Preparation***

Lack of social preparation is evident in this case study. First, the DA-SAAD implementing team in Brgy. San Bartolome was not able to help organize an association of potential farmer beneficiaries. Second, although a project orientation among the identified beneficiaries was conducted, there was no technical training on duck raising even if the farmers were first time growers of duck. The farmers would

have been more confident, motivated and successful in undertaking the enterprise if this essential training was given.

### **Production and Livelihood**

By and large, the duck egg laying production of Mr. Joel Furio and his family was relatively good with only two duck mortality. The ducks were already producing eggs for food for the family and for additional income before the typhoon came and devastated the area. During the year before the typhoon, they produced 300 pieces of eggs for consumption and 300 pieces of eggs for sale at a selling price of Php 6 per piece, giving them a gross income of Php 1,800.

Mr. Furio gained initial benefits in terms of providing his family an important source of food and nutrition. Half of his 600 produced eggs were sold as a source of additional income. This reduced their food consumption expenses and they made use of the cash proceeds for other essential needs.

Mr. Furio and his family declared additional welfare gains from their duck raising venture. They claimed that it provided the family closer relationships by making them work cooperatively and harmoniously in performing and coordinating the farm activities. It also increased the knowledge and skills of the children in duck raising as this is a new venture to them. Ultimately, they learned the value of working together and using their time and new skills productively.

### ***Marketing Assistance and Enterprise Development***

The local market study, technical training on entrepreneurship and value adding, provision of logistic support, and audit of livelihood enterprises were not yet conducted in the locality as the project was small and just starting but once production of duck eggs (and perhaps later also duck meat) will be well established in the

barangay, the need to find market niches, entrepreneurial activities, and logistics will be in place.

### **Initial Impact**

#### ***Improved household food consumption of partner beneficiaries***

Before the SAAD project, the family was living a modest or a simple life in a very serene place in an upland area filled with coconut trees and a small rice land at the foot of a hill.

They survive by eating 3 times a day with rice, fruits, vegetables, and meat from animals they raised on the farm. They do not have incidence of malnutrition or hunger, although they do not have debt, savings, health insurance aside from Phil-health, or budget for recreation. The family owned a semi-concrete dwelling house - with electricity, communal water systems, and their own flush toilet, and the area is reachable by walking or land transport.

Though the project was short-lived and not sustained, the project had given the family some food through nutritious duck eggs. It has renewed their experience in duck raising and has provided opportunity for the family to bond and work together in their production process through thick and thin, particularly during this pandemic as well as with climate change related challenges.

#### ***Increased income and improved economic status of partner beneficiaries***

Though the SAAD project did not create a very significant impact on their current living situation, they said that “*with the SAAD project medyo nag angat-angat man dito kay nakadano, kun mayon inhatag na kun nano, Salamat at Nakabulig man pang eskwela*”.

The Furio family’s overall welfare evaluation before and after their engagement with the DA-SAAD program: First, before SAAD they rated their overall

welfare (or living conditions) as “low” and then after receiving SAAD interventions, they expressed that their living conditions improved “high”. Second, before SAAD they rated their satisfaction on interventions of DA as “neutral”, but with their engagement with the SAAD project, they expressed “satisfied” with the interventions.

### **Issues and Challenges**

For a more participatory planning and implementation of the project, comprehensive information dissemination should be conducted through meetings or consultations with potential beneficiaries. These meetings also serve as a platform to identify the immediate needs and directly address the livelihood aspirations of the target beneficiaries. Not only should the farmers' needs be prioritized, their capacity and level of competence to do the activities must be recognized as well. If skills and technical knowledge are seen to be lacking among beneficiaries, training on these appropriate interventions are imperative to achieve the project goals.

A natural calamity (flood due to typhoon) destroyed the area. The ducks were drawn away and killed with only four ducks left while the whole housing was destroyed. The incident was reported to the DA-SAAD/LGU. They monitored and documented the project activities but then eventually terminated the project. It is sad to note that the four remaining ducks were also stolen.

The project was not sustained as the initial stock of ducklings (lost during the typhoon) was not replaced to possibly continue the project. Based on the lessons learned from the typhoon, should the initial stock of ducklings be replaced with other ducklings (with accompanying nets/pawid), the farmers suggested that it is better to locate the duck raising project in the upper portion of the farm with suitable access to water wading area.

After the calamity, it was reported that the participant beneficiaries were not offered alternative livelihood interventions. Should they have been given another opportunity, they said they would prefer the swine raising project as they still have the housing in the area. Moreover, they have experience in doing this activity and will not have much capital to finance the enterprise.

Additionally, looking at the terrain and available land area for upland rice production, they could possibly venture into vegetable gardening and raising native chickens for home consumption.

Marketing was not a problem in duck egg selling as the supply is still limited with only a few duck raisers in the area. But should the project be expanded in the future, the need to create a market niche should be considered including value addition to offer more products for sale (e.g, salted eggs, balut making and perhaps even duck meat). Likewise, enterprise development for the family and their neighbors (particularly on handicraft making, copra production, and vegetable gardening) can also be explored.

### **Future Directions**

This case study of Mr. Joel Furio and his family who farmed their land in Barangay San Bartolome, Sta. Magdalena, Sorsogon presents evidence that duck raising can be a viable source of livelihood for resource poor farmers.

Although short-lived, as it was devastated by a typhoon calamity towards the end of the season, Mr. Joel Furio and his family demonstrated that: (1) Duck raising and production of eggs is technically feasible; (2) It is a doable family enterprise as they capitalized on their past experiences; (3) It is environmentally safe as they prevented pollution from waste because they made sure that the duck farm project is situated away from the neighborhood; (4) The provision of ducklings and nets or

pawid from the DA\_SAAD effectively reduced the net production cost of duck raising; they used these net saving in procuring other essential needs including school fees; (5) The project provided them with a source of food from eggs and in a big way made them food secure (with protein sources); (6) Thus, they increased food consumption with reduced cost as they produce the duck eggs themselves.

The implementation of this duck raising livelihood project introduced by DA-SAAD brought about additional and meaningful welfare gains to the Furio family. The project became a family enterprise where all members of the family (father, mother, and all children) actively participated. They coordinated their respective assignments and this binded them all together working harmoniously in the pursuit of generating additional food and income.

Despite what happened (typhoon and later followed by pandemic), they are positive that life goes on with more opportunities to come. They look forward to post-pandemic as the SAAD program is being continued in their barangay. Given a chance, they are still willing to become beneficiaries of DA-SAAD. This time, they are requesting that they should also be included in the swine dispersal program as they have experience in swine raising and they already have the housing for swine. With the continuation of the SAAD program in their barangay, the family and their neighbors look forward to additional opportunities for livelihood enhancement at the project site including the establishment of a vegetable home garden and value adding and processing enterprises.

## CONCLUSIONS AND RECOMMENDATIONS

The SAAD Program is the Department of Agriculture's mechanism to improve productivity of farmers and fisherfolks in the poorest of the poor regions of the country. Providing a holistic approach from administrative and logistical support to identified beneficiaries, interventions were smoothly implemented geared towards attaining the country's goal of self-sufficiency in food supply.

The case on the adoption of oyster farming technology as one of the livelihood beneficiaries is considered a success, while the case on poultry-duck raising can be considered unsuccessful. The SAAD assistance on the oyster case not only generated higher food production and income for the family but also enhanced the family's involvement in technical activities and decision-making towards improving family productivity thereby sustaining the adoption of the oyster farming technology, while none of these were achieved on the poultry-duck raising case due to fortuitous events and inappropriate interventions. Moreover, although a few of the program interventions' household benefits were already satisfied, both cases involving associations have not yet fully realized the benefits of community entrepreneurship.

The case of Mr. Solomon exemplifies and indicates smooth implementation of the SAAD program protocols of helping poor fisherfolks of the country, while the case of Mr. Furio reflects the ill-effects of poor identification of appropriate interventions. Nevertheless, issues or concerns to further sustain the livelihood program need to be addressed for a continuous production and sustainable agri-fisheries development with the participation of the marginalized households and their corresponding associations towards empowered community enterprises.

Community-based enterprise development is a long-term perspective of the DA-SAAD hence capacitating and empowering family households from production to

postharvest and marketing towards family entrepreneurship are significant initial steps in achieving food sustainability of the SAAD priority regions in general.

Based on the conclusions, the following are recommended:

1. **Capacity building** through training to enhance technical knowledge and skills of beneficiaries. Workshops and meetings that will strengthen social preparation and issue identification or problem analysis in the implementation of the livelihood interventions are encouraged.
2. **Enhancing family entrepreneurship** towards the long-term community entrepreneurship and development initiative of the SAAD program.
3. **Additional units and set-up** for the oyster fisherfolk aimed at increasing the volume of production and area expansion for oyster culture. An important lesson in the oyster case study is the realization of technical considerations combining the SAAD interventions with environment-friendly and traditional oyster technology of the locals (e.g. the utilization of oyster shell and bamboo in putting up an oyster bed/farm for expansion).
4. **Post-harvest technology** for oyster family beneficiaries particularly women must be considered, e.g. utilization of oyster shell for lime production, oyster paste and sauce, among others to be more productive and contribute to fisheries development in the countryside. In so doing, developing a network or federation of oyster producers and families in particular at the provincial/regional level may be considered as the initial step for a community-based entrepreneurship development.