



SPI-SARD

The South Pacific Institute for Sustainable Agriculture & Rural Development



2022 Annual Report

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1. Background of SPISARD

The South Pacific Institute for Sustainable Agriculture and Rural Development (SPISARD) was established in the Department of Agriculture (DoA) of the Papua New Guinea University of Technology (PNGUoT) in 2003 and started conducting outreach extension activities in 2004. The SPISARD is an institute-conduit that promotes sustainable agriculture and rural development. The Institute is tasked to develop location and farming specific extension methods and approaches, providing training and transfer of appropriate and sustainable agricultural technology, conducting applied and development-oriented research on food and cash crops, livestock, and the development of appropriate farm implements. The target is to improve and attain sustainable integrated farming system practices suitable for the subsistence and semi-subsistence farming community with improved farm productivity and income and minimum impact on the quality of the environment.

Over the years, the Institute has broadened its scope to a more holistic approach to include other programs in the area of household food security, household livelihood strategies in peri-urban settlements, gender issues, resource management, education, health, clean and safe water supply, improved sanitation and hygiene, solar lighting, HIV/AIDS awareness and other relevant programmes that affect people, their lives and livelihoods.

The Institute operates through a “model village approach”, an avenue to channel activities pertaining to research, training, and extension with active participation from the target population and communities. This approach complements the existing models in that, the development process takes place in the farmers’ environment with immediate “real-time” feedback mechanisms based on the farmers’ perspective and satisfaction. For the SPISARD, the uniqueness of its model is the participatory strength it has in engaging under- and postgraduate students, academic staff of the DoA, and internal sister academic departments of the University. The activities were conducted in the model villages that were established in various agro-ecological zones in the country.

1.2 VISION

The vision of the Institute is:

To be dynamic and innovative in providing leadership and life-long learning in extension and sustainable agriculture development, positively impacting on rural communities in Papua New Guinea, Melanesia, and the South Pacific Island Countries (PICs).

1.3 MISSION

The mission of the Institute is to:

- Collaboratively advance the development of “Model Villages” and improve the skills of the people involved in the rural development activities to help themselves towards improved welfare and livelihood;

- Create, foster, and implement collaborative action and learning opportunities through demonstration projects and learning centers;
- Promote direct participation of farmers in the pursuit of improving their farming systems to increase productivity, income, household food and nutritional security, and sustainably manage the environment.

1.4 FUNCTIONS

The functions of the Institute are:

- Conduct applied research in sustainable agriculture, household food and nutritional security, household livelihood strategies, extension training, and rural development;
- Train and develop human resource needs of agriculture and community development in PNG, Melanesia, and the PICs;
- Develop and promote appropriate farm implements;
- Develop appropriate post-harvest and food preservation technology and promote nutrition;
- Provide agriculture extension services, including technical information in suitable forms to farmers;
- Provide market, credit, and agri-business management information to farmers
- Develop and transfer improved agricultural technology
- Develop appropriate extension methods
- Evaluate research, extension, and development policies.
- Provide advisory services to the government, private and rural communities.
- Preserve and promote agricultural bio-diversity in crops and livestock farming.
- Popularize rice cultivation for food security
- Initiate aquaculture for family nutrition.
- Initiate agro-forestry, and social forestry.
- Promote and harness traditional farming systems and their environmental control and land usage.

The Institute receives an annual budget of K100, 000.00 from the University that helps to support its outreach activities to rural communities. This report presents community outreach activities conducted in 2022.

2. Activities conducted in 2022

2.1. Preliminary Observation

Two Preliminary Assessments were done to identify the Training Needs of the rural populations in Kendale and Masandanai villages in Ialibu, Southern Highlands Province and Angoram, East Sepik Province respectively.

2.1.1. Training Needs Assessment – Ialibu, Southern Highlands Province

In February 2022, the Acting Director of the SPISARD, along with a team comprising Mr. Kewa, Mrs. Tiko-Motoro, Ms. Parau, and Mr. Narimbi, embarked on a one-day trip to Kendale village in Ialibu, located in the Southern Highlands province, to carry out a Training Needs Assessment. This trip was initiated in response to a request from the Deputy Mayor of Ialibu District, who expressed interest in collaborating with the SPISARD on various projects. The team's visit to Kendale village is a testament to the SPISARD's commitment to collaborating with local communities and stakeholders to identify their training and development needs and develop tailored programs to meet their needs.

Based on the observations of the Team, Kendale village is situated in the basin of Mt Yalibu and Giluwe and presents an immense opportunity for sustainable and profitable farming. The region boasts an abundance of arable land, marshes, and rivers, which are home to a diverse range of aquatic plants and animals that could potentially serve as alternative feed ingredients to be used in Stock Feed Making. This presents a promising avenue for exploring innovative and sustainable farming practices that can support the growth and development of the local agriculture industry while preserving the natural environment. Preliminary findings underscore the potential for Kendale village to become a leading hub for sustainable agriculture in the region, and the SPISARD remain committed to working with local stakeholders to harness this potential. After the participatory need assessments proposed trainings were identified in order of their priority which includes (i) vegetable farming, (ii) stock-feed making and solar drying. The last two weeks of September was set for the first batch of training (nursery practices and vegetable farming) to be conducted, however, due to the national election, Trainers were not able to deliver the trainings as expected and postponed to early 2023.



2.1.2. Training Needs Assessment and Development of a Cocoa Budwood Garden – Masandanai Village, East Sepik Province

Training Needs Assessment

In September 2022, a team of officers from the SPISARD conducted a preliminary trip to Masandanai Village in Angoram District, located in the East Sepik Province. Masandanai is one of a remote riverine village located in the Karawari Local Level Government (LLG). The aim of the trip was to establish a connection with community members and leaders to foster agriculture and community development activities in the area.

The visit allowed the team to gain a deeper understanding of the community's development and training needs, which will serve as a foundation for developing tailored programs to support their growth and prosperity. This initial visit represents a key milestone in the SPISARD's ongoing efforts to build meaningful partnerships with local communities and promote sustainable development.

On Thursday 8th September 2022, the SPISARD team convened a meeting with the village councillor, village leaders, women, and youth at the councillor's meeting house in Masandanai Village. Despite half of the villagers being away at Angoram for a mortuary, the meeting was well attended, with approximately 50 people in attendance. The team's engagement with the community provided valuable insights into their current ventures, particularly in cocoa farming, which was introduced to the villagers through the Smart Cocoa Program led by Governor for East Sepik Province, Allen Bird. While cocoa farming presents a promising opportunity for the community, it was noted that the villagers have not received any training on how to grow the crop or where to obtain Cocoa Board certified seedlings. Despite reaching out to neighboring communities for support, the challenge remains significant. This highlights the need for targeted training and support programs to enable the community to fully realize the potential of cocoa farming and other agricultural ventures.

In light of the challenges faced by Masandanai Village in obtaining Cocoa Board certified seedlings, a cost-saving strategy was identified by the SPISARD team. The community was encouraged to establish their own cocoa budwood garden, which would enable them to propagate their own seedlings at a reduced cost. During the meeting with community

members, it was discovered that the village already had a budwood garden, which had been planted and managed by the former ward councillor. However, ownership of the garden was unclear. Therefore, the community agreed to formally recognize the former ward councillor as the owner of the garden. To support the development of the budwood garden, the SPISARD donated a full set of 180 clone seedlings to the community (18 standard clones x10 seedlings per clone). This initiative is expected to provide the community with a sustainable and cost-effective source of seedlings for their cocoa farming operations, thereby promoting long-term growth and prosperity. Further, the community needed help in proper measurements in block lining and nursery practices for the development of the budwood garden. Requests were made for the SPISARD Cocoa Officer, Mr Fanua to make a second trip to the village to help in developing a budwood garden. Plans were set for Mr Fanua to make his second trip in October and the community was tasked to allocate and clear a place for the budwood garden.

Moreover, to support the development of cocoa farming in Masandanai Village, the SPISARD team identified the need for targeted training programs. The proposed training sessions will focus on key aspects of cocoa block establishment, husbandry and management practices, and grafting skills. In collaboration with Mr. James Fanua, the SPISARD team made arrangements for the delivery of these trainings however, due to budgetary constraints, it was not possible to conduct these trainings and were postponed to 2023.

This delay is expected to have minimal impact on the overall development of the community's cocoa farming operations, as the training sessions will provide essential knowledge and skills to enhance the sustainability and profitability of cocoa production in the village.



Top left to right: SPIARD Team addressing the community in the ward councillors 'haus man' (meeting house). Bottom left and centre: Cocoa seedlings being loaded off the vehicle and onto the motor canoe. Right: SPISARD team presenting the cocoa seedling to the ward councillor. Photo Credit: SPISARD.

Development of a Community Cocoa Budwood Garden

In October 2022, Dr Bue and Mr Fanua travelled to Masandanai village for the development of a cocoa budwood garden for the community. The Team realized that a site has been allocated and virgin forests were already cleared for the garden. The community was really keen in the development of the garden and there was a very good turn up of youths and elders on the first day. Mr Fanua gave a talk out in the field on block lining, different varieties of coco clones and nursery practices before all participated in clearing the weeds, doing the measurements, digging holes and planting the seedlings according to the Cocoa Board standards. However, due to transportation losses, 42 seedlings were damaged and are yet to be resupplied to complete the budwood garden. These seedlings will be supplied in early 2023 as the work in Masandanai village progresses. The Team look forward to continued collaboration with Masandanai Village to identify opportunities for growth and development.



Masandanai Community participating in the Budwood Garden establishment led by Cocoa Officer Mr. James Fanua

2.2. Baseline Survey

2.2.1. Baseline Household Income and Dietary Survey – Kapari, Central Province

To gain a better understanding of the socioeconomic conditions and dietary habits of households in Kapari, a baseline survey was conducted from 29th March 2022 to 5th April 2022. The survey was carried out by Ms. Tabitha Parau, and a comprehensive report is

currently being finalized. The primary objective of the baseline study was to establish important benchmarks that can be used to evaluate the effectiveness of selected program interventions and assess their impact on household income and dietary diversity. The findings of the baseline study will serve as a valuable reference point for future planning and development activities in Kapari, as they will provide a clear picture of the existing socioeconomic situation and inform the design of targeted interventions to improve the wellbeing of the local population.

2.3. Outreach Activities

2.3.1. Meithe Village Gravity-Fed Water System and Cocoa Nursery

i. Gravity-fed Water System

The Meithe Gravity Feed water system represents a significant milestone in the SPISARD's efforts to improve cocoa nursery and farming development, and to enhance the livelihoods of the local population. This initiative is expected to play a pivotal role in supporting the nursery setup and cocoa development in Meithe village and its surrounding areas. By providing a reliable source of water for irrigation and other agricultural activities, the water system will enable farmers to cultivate their crops more efficiently, leading to increased yields and improved incomes.

Moreover, the Meithe Gravity Feed water system will provide local communities with access to clean water, which will have a positive impact on their health and wellbeing and cut down on excess time being spent by women sourcing water which can be used in other productive activities. Overall, the Team believe that this initiative will contribute significantly to the sustainable development of Meithe village and its people, and the SPISARD is committed to ensuring its success through ongoing monitoring and evaluation.



Top left to right: Water source from which water is piped down to 9000 litres water tank.

Bottom left to right: Water piped into the water tank and distributed various points in the village. Photo Credit: SPISARD



The gravity-fed water system, which spans a total distance of 3km from the mountains to the village below, required an equivalent length of poly piping to be installed. The installation process, which involved setting up the materials and delivering the water to the tanks and village area, took a total of 3 days. This crucial development was funded by the Kapari Development Association (KDA) and carried out by the Agriculture Department of the South

Pacific Institute for Sustainable Agriculture and Rural Development (SPISARD) in collaboration with the Appropriate Technology and Community Development Institute (ATCDI) at PNGUoT.

The implementation of the gravity-fed water system was a resounding success, as evidenced by the pictures above. Within a mere three days, the villagers were able to access clean water in their homes for essential activities such as cooking and washing

ii. Cocoa Nursery Development

After the successful completion of the gravity-fed water system, a cocoa nursery was promptly erected in Meithe Village, with the assistance of Cocoa Officer Mr. James Fanua, who supervised the establishment of the nursery. The nursery has the capacity to hold up to approximately 30,000 seedlings.

Additionally, Mr. James Fanua provided a demonstration to the villagers on how to perform block lining and plant shade trees. The villagers are expected to use this knowledge to carry out block lining in their own cocoa blocks and begin planting shade trees. A follow-up visit will be conducted at a later time to assess the progress of the villagers' block establishment in preparation for transplanting cocoa seedlings.



Block lining demonstration



Construction of nursery structure



Slashing, burning and clearing



Setting up of nursery bays



Cutting of 15cm nursery pickets



Pulling of wire along the bays

2.3.2. Establishment of the Integrated Community Transformation Centre (ICTC) at Hamara Model Village, Oro Province

The people of Kokoda LLG (Ward 14) in Oro Province have completed the construction of the ICTC in Hamara Village. The Centre is set to open in December 2022. As part of their industrial training, 10 students from the CDS Department spent eight weeks in the village conducting community profiling work. A 5-day training program on Stock-feed making and Cocoa Husbandry is scheduled to start in January 2023. The Centre is scheduled for opening during the same time.

2.4. Partnerships

The SPISARD is actively establishing partnerships with relevant organizations to facilitate training delivery and promote rural community development.

Small and Medium Enterprise Corporation

In mid-2022 Mr. Nick Kewa, a committee member of the SPISARD, met with the Director of Small and Medium Enterprise Corporation (SMEC) to come to an agreement of collaboration with the SPISARD. The goal of this collaboration is to improve the financial literacy of rural farmers in PNG.

The SPISARD's mission is to develop location and farming-specific extension methods and approaches, providing training and transfer of appropriate and sustainable agricultural technology, conducting applied and development-oriented research on food and cash crops, livestock, and the development of appropriate farm implements. The target is to improve and attain sustainable integrated farming system practices suitable for the subsistence and semi-subsistence farming community with improved farm productivity and income and minimum impact on the quality of the environment. SMEC's mission is to provide support and assistance to small businesses and promote entrepreneurship in PNG.

By collaborating with SMEC to provide financial literacy training, the SPISARD can further achieve their mission of improving the livelihoods of rural farmers by addressing one of the major challenges they face: lack of financial knowledge. This collaboration will help farmers gain knowledge about access to credit facilities, loan applications and basic bookkeeping, which can lead to better financial management and decision-making, ultimately improving their income and quality of life. The collaboration will also promote entrepreneurship and small business development in rural areas, which aligns with SMEC's mission. Overall, this collaboration has the potential to contribute significantly to the sustainable development of rural communities in PNG.

Visit to the SPISARD by Member for Bogia Open, Madang Province

Honorable Robert Naguri, a Member of Parliament from Bogia in Madang Province, recently met with the Department of Agriculture, the SPISARD team, the ATCDI team, and the Vice Chancellor of the Papua New Guinea University of Technology, Dr. Ora Renagi. The purpose of the meeting was to seek expertise in agriculture and rural development, with a particular interest in having SPISARD and ATCDI work on rural development in his electorate.

This meeting demonstrates Honorable Naguri's commitment to promoting rural development in his constituency, and his recognition of the importance of agriculture as a means of improving the livelihoods of rural communities. By seeking the expertise of organizations such as SPISARD and ATCDI, he is taking a proactive approach to addressing the challenges faced by rural farmers and communities, and working towards sustainable development.

SPISARD's focus on sustainable agriculture and rural development, combined with ATCDI's expertise in community development and technology transfer, can provide valuable support to Honorable Naguri's efforts. Through collaboration with local stakeholders and the community, they can help to develop and implement strategies that promote agricultural productivity and income generation, while also addressing environmental and social concerns.

Overall, this meeting highlights the potential for partnerships between government, academia, and civil society to work towards sustainable development in Papua New Guinea, particularly in rural areas where the majority of the population resides.



3. Conclusion

After reviewing the various activities and initiatives carried out by the SPISARD over the past year, it is evident that the organization has made significant progress in promoting sustainable agriculture and rural development in Papua New Guinea. From the establishment of cocoa nurseries, budwood gardens and gravity-fed water systems to the training of farmers and the building of community centers, the SPISARD has demonstrated a strong commitment to improving the livelihoods of rural communities.

In addition, the SPISARD has actively sought out partnerships with other organizations to enhance the delivery of training and development programs. These collaborations have helped to build stronger networks and increase the reach of the SPISARD's initiatives.

As we look forward to the coming year, we are confident that the SPISARD will continue to make a positive impact in Papua New Guinea. The dedication of its staff, the support of its partners, and the resilience of the communities it serves all contribute to a bright future for sustainable agriculture and rural development in the country.