

Global Alliance for Organic Districts (GAOD) as models and living laboratories
for the process of transformation towards sustainable food systems



GAOD Book Series
Book 5
Contributions from the Work Groups of GAOD

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The **GAOD Book Series** is published in November 2020 as part of the 1st GAOD Summit, successfully hosted under the generous financial support of Goesan County, South Korea. The Founding Partners of GAOD such as the Asian Local Governments for Organic Agriculture (ALGOA), International Network of Eco-Regions (IN.N.E.R.), Regeneration International, the Organic Food Systems Programme (OFSP), etc have worked together to make the 6th ALGOA Summit “Build Alliances Beyond Asia” and the Inaugural GAOD Summit, a successful and rewarding event, with the support and assist from their global partners.

The **GAOD Book Series** contains all the exchanges on the latest research, experiences, and best practices during the event. Five books are created to allow these valuable inputs during the Summit go beyond the 6th ALGOA Summit and the Inaugural GAOD Summit to benefit more people.



The GAOD Book Series

Book 1 **Introductory Phase - Pathways for Cooperation**
Best Practices of ALGOA Members

Book 2 **Covid-19 and Organic Agriculture**
Organic food consumption - a step forward for sustainability

Book 3 **Work Group Reports**
- Organic Districts' Integrated Management
- Communication
- Youth in Organic Agriculture

Book 4 **Work Group Reports**
- Tourism & Gastronomy
- Food Processing
Best Practices of Organic Food Systems

Book 5 **Work Group Reports**

About Book 5

Book 5, the last in the **GAOD Book Series** published in 2020, contains the discussions made by **Work Group 3** which focused on the development of activities in organic and regenerative farming, identifying the main challenges, and the sharing of best practices from around the world.

The discussions from **Work Group 5** are also part of this Book. This Work Group lists activities related to the improvement of social conditions in Eco-region communities while striving to strengthen community bonds, facilitating exchanges of ideas, practices, and knowledge among people from both urban and rural areas.

Book 5 also contains best practices from the **Organic Food Systems Programme (OFSP)** – an Organic Food Systems Case Study Project from the University of Kassel in Germany, and the **best practices from the five continents**.

Book 5 is especially dedicated to **Professor Dr. Johannes Kahl** who has been so instrumental in the work of the **Organic Food Systems Programme** and in building linkages with IFOAM Asia and the Asian Local Governments for Organic Agriculture (ALGOA).



Johannes Kahl[†]
Researcher, educator and bon vivant

We are deeply saddened to announce the death of Johannes Kahl, the lead coordinator of the Organic Food System Programme OFSP and chairman of the International Research Network for Food Quality and Health FQH.

Prof. Dr. Kahl, 52, died on Thursday, 12th November 2020. We remember Johannes for his openness, curiosity, his thirst for and tenacity in pursuing knowledge, for his ability to recognize and call forth what an individual could contribute, and for his enjoyment of life and generosity of spirit as our cherished friend and companion. For your inspiration, we remember you in our heart hidden but not forgotten.

OFSP Steering Committee

Carola Strassner, David Gould, Denis Lairon, Ewa Rembalkowska, Flavio Paoletti, Jostein Hertwig, Sussane Bügel

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1. Reports from Work Group 3

- Regenerative/Organic farming - Agroecology - Natural resources management and Energy production

Objectives of the Work Group

Support the Organic Districts in the development of activities related to the start-up, management, and organization of different sustainable production models where the Regenerative/Organic farming – Agroecology go hand in hand with the strictly related Natural resources management and Energy production. This will provide a strong support for the Organic Districts in the sustainable supply of food, fiber and ecosystem services which represent the core of the activities.

Participants of the Work Group

Ramon Uy (ramonuyjr@yahoo.com); Wishnu Dewah(kontakpetani@gmail.com); Gloria Ge (gloria.ge@abovefarm.org); Godson Mlavi (godsonlucas2@yahoo.com); Oliver Gardiner (oliver@regenerationinternational.org); Taro Yoshida(cityfarm@plum.plala.or.jp); Jonathan Wong (jwcwong@hkbu.edu.hk); Rolf Kevin (rolf.kevin@nbg.bio); Eusun Han(eusun.han@plen.ku.dk); Mauro Gamboni(mauro.gamboni@cnr.it); Cristina Amaro da Costa(amarocosta@esav.ipv.pt); Kianga Mdundo (k.mdundo@gmail.com)

Summary from the Work Group Discussion

Topic 1. Main Challenges for Regenerative /Organic Agriculture to Grow

- What are they? How can they be overcome? What can GAOD do?

Points from Discussions

Alberto (2 pillars) – Italy – rural areas have similar problems – farmers are getting older, land is being abandoned, holistic approach, farmers training – organic and agroecology need s very specific skills that need to be tailored to the farmers and the territory, advisory services are prepared for industrial farms and there is a need of specific training, experience of organic districts that already have their own training services for their farmers, very local and specific (ex. How to grow local cultivars) – alpine mountains have specific programs for farmers train, very small patches of land that need to be profitable and use organic standards, need to have specific cultivars, ad the local services are working on that – good example.

Farmers needs to be involved in defining research goals in participatory farm relevant research. High cost of organic certification needs to be addressed. Participatory Guarantee Systems (PGS) needs to be developed and accepted by consumers, governments and farmers. Cooperative farming should be encouraged by grants.

Consumers awareness need to know what they are eating, information about the nutritional value of the organic food.

Kianga Mdundo – Tanzania – policies that emphasises organic farming, government support only conventional farming, bring back farmers to organic, small scale but it is increasing due to the support of ONGs – civil society engagement.

Ramon Uy – Philippines (Negros Island the fourth largest in Philippines with 13.309 km2) – Strong partnership with the local government, Approximately 10 000 farmer doing organic cultivation on 10 000 ha, mainly rice. Development started 10 years ago with the Slow Food Movement. The market has grown large enough, the main problem is the production because the demand is increasing. Increase

research in growing specific crops, document the best practices, especially from tropical regions, based on the use of valuable legumes, specific and smaller equipment – small farmers (1 ha each). Farmers are given assistance and access to affordable funding. Experience show that organic is not so expensive to produce. Prices are set based on cost with reasonable mark-up to secure income to farmer and affordable prices to consumer. The goal is to make all the island organic. Present market is only local consumers (no exportations). Certification is done by a PGS (Participatory Guarantee System) that is now passed into law. The island has banned GMO.

Wishnu Dewah – Indonesia – organic is growing around the big cities but the pandemic have slowed it a bit, tourism is demanding for organic food. Local and tourism consumers. Production comes from the smaller farmers without technical support, so the change is made with only their support, problems with productivity, the prices are higher but the productivity and the quality are worst. How to increase productivity and quality to improve farmers income?

Gloria Ge – China – need for human labour – lack of farm employees, due to low salaries when compared with other sectors, people prefer to go to the cities, land allocation – young people don't have access to land or have it but at high costs, demand is ok, with consumers mainly from Europe and USA (export organic food to other countries).

MESSAGE “The main challenge in China to run an organic farm is the lack of human resources. We need young pioneers in both management/technology areas of organic farming. We also lack farm employees due to low wages in agriculture sector compared to services/manufacture field. The land allocation is also a problem. For some small-scale farmers who own the farms are reluctant to farm their land while for new farmers with determination of start organic farming have no lands to plant or their cost of farming is higher.

We need the local governance for human resources and lands, not just tend to be certified organic farms, but also to small scale farms.”

Godson Mlavi – Tanzania – lack of research, especially due to the plant diseases that are severe and farmers don't know alternatives to pesticides, even with this cultural solutions they still have diseases and pests to fight. So, research is needed to find solutions.

CHAT “No policy reinforcing organic agriculture, lack of knowledge for other on organic farming”.

Oliver Gardiner – genetic diversity and crop rotation to mitigate diseases, plants that attract or repel pests, there is a cocktail of solutions to be used.

Nazmul Haq – Bangladesh – Marketing of agricultural products, trying to build connection with market actors, production is low/minimum, and cannot accumulate product at the same time, so prices negotiation and fairness is difficult.

Oliver Gardiner – local authorities need to recognise the value of ecosystem services that are provided by organic farmers, for instance water quality.

Jonathan Wong – Hong Kong – Larger propaganda to influence decision makers, example of good cases should be shares to influence government and educate the governmental officials. Importance of sharing organic policies implemented in US and Europe.

Topic 2. Microorganisms in Healthy Soil

- What are they? What are the best measures to secure a healthy soil biome? How can GAOD help?

Points from Discussions

Mauro Gamboni – Italy – spread awareness about the importance of microorganisms in the soil, to understand its contribution in organic farming. Important role in maintaining the soil quality, that is central in organic farming. Soil biodiversity, sophisticated techniques, transfer the knowledge to the farmer. Need to change the credit system in scientific institutions from not only production and publication of scientific papers, but also dissemination and practical application on the ground. This is especially important in the farming community and for attracting young people in realizing that farming also offer important scientific knowledge.

Eusun Han – Korea (researcher in Denmark) – importance of the microorganisms in the soil, how to maintain and diversify.

Wishnu Dewah – Indonesia – so much rain 4 or 5 thousand mm per year, acid soils, less than pH 4, farmers don't know how to neutralize the acidity naturally, so that they can grow better, how to use m.o. to control pH.

Oliver Gardiner – look at you soil, using a microscope, and assess its quality – nematodes, protozoa, there are protocols and manuals to help on this assessment, IFOAM and FAO site. , combining livestock with crop production, agroforestry (organic matter and also shadow).

Godson Mlavi – Tanzania – microorganisms are very important specially to the aeration, problems due to climate changes, drought and intensive tillage.

Cristina Amaro – Portugal – easy techniques to assess soil quality – bait laminas, pit fall.

Kianga Mdundo - Tanzania - how to increase organic matter in the soil?

Gloria Ge – China –

MESSAGE “We normally count earthworms as organisms and do chemical and physical checks for healthy soil. Need to know how to set up a lab for basic MICROORGANISMES in organic farm”.

Topic 3. Best Practices of Regenerative and Organic Farming

- What are they? For grazeland? For growing crops? The role of grazing animals? Who has proven best practice? How can GAOD assist in bringing best practice to RO farmers?

Points from Discussions

Gloria Ge – China

MESSAGE “I think the best practise for farming should include both growing crops and grazing animals. Because of the circulation of the nutrition within the farm and less input to prevent outsourced contamination and also resources allocation. The biodiversity of crops and animals vary pending on

where the farm is. The farm should not only organic but also sustainable in ecology, social and economy. We are also seeking for the models of best worldwide farms”

Oliver Gardiner – presents and explained the bioreactor composting – enables compost production very quickly and without having to work on it - “How to build a compost bioreactor” video - <https://www.youtube.com/watch?v=P9OPxR3-GuY>

The French initiative “4per1000” is now gearing up and offers a global community of stakeholders for aggregation and policy formation.

Jonathan WC Wong – this kind of composting will probably not work so well in cold climates, different composting techniques should be used according to local conditions.

Ramon Uy – Philipines (Negros Island) – produce small shredding machines, collect organic matter, and decompose the materials using worms – 1kg of worms eat 1 kg of compost per day. Vermicomposting at large scale. Also use Bokashi fermentation: the simplest, least costly, and fastest way to recycle organic waste.

MESSAGE “Bokashi” large composting. Bokashi is fermented organic matter made of vermicast, chicken manure, mud press, mill ash, effective microorganisms and is rich in humus, beneficial microbes, fungi, and plant nutrients— these improve the efficiency of water and nutrient use in soils. Bokashi is made from 100% all- natural and biodegradable materials.

- ▶ Source of essential macro and micro-nutrients
- ▶ Improves the plants health
- ▶ Brings back soil fertility
- ▶ Increases the soil's water holding capacity
- ▶ Improves soil cation exchange capacity

- ▶ Prevents leaching losses
- ▶ Changes soil structure
- ▶ Increases crop production
- ▶ Brings back microbial balance in soils

<https://www.facebook.com/freshstartorganicfarm> & www.freshstartorganic.com

Kianga Mdundo - Tanzania – composting process is based on compost piles that are turned each week, worms came naturally.

Oliver Gardiner – other good and regenerative practices are: No till. Growing more with less land and less inputs, never leave the soil uncovered – permaculture – a conceptual system inspired in nature equilibrium, building harmonious and durable ecosystems. The importance of agroforestry, combining livestock with crop production, crop diversity, biodiversity and ecosystem services, creating natural symbiosis between plants, animals, and microorganisms. This is a great solution and resilient in face of climate changes. Movie – kiss the ground (<https://kisstheground.com/>). Cut the herbs and left them in the soil, and it increases soil organic content and quality.

GAOD to encourage policies on 1) Municipal zero waste programs for compost production and proliferation 2) public funding to compensate farmers on ecosystem services 3) accessibility to land for young farmers in underpopulated rural areas.

Rolf Kevin – Farmer’s Footprint is a remarkably interesting addition to regenerative agriculture. Formed by Dr. Zach Bush who is a cancer researcher and practitioner. He has come to the realization that the present medical paradigm is not producing adequate health. The needed alternative is food as medicine. Here is his message:

“As doctors we are feeding the same pharmaceutical model and chemical apothecary to our patients. Managing symptoms of chronic disease with an ever-increasing toxicity of drugs. Antibiotics, then

antidepressants, then statins, then chemotherapy, then narcotics to assuage the pain. The same pharmaceutical companies are marketing the chemical herbicides, pesticides, and then treating the diseases of the livestock that have emerged, antibiotics, nutrient supplements, brain stimulant drugs, etc.

Food is no longer our medicine, pharmaceutical chemicals and drugs are now the main ingredient in our foods. It is time for the American consumer to empower our farmers to take back our food, and our right to the health that the food should bring us and our children.” (Zach Bush MD)

Farmer’s Footprint offer extensive training. With training in best practice, guaranteed income at the level of last year for farmers transitioning from chemical farming and close follow up, they experience a shortening of the time it takes for sustainable soil to become organically productive down to 3 years.

There are numerous organic farmers in many different countries around the world. Yet, there is a great need for knowledge transfer and more regenerative pilot farms that incorporates proven best practices adapted to the local situation. Websites such as Regeneration International, regenerationinternational.org Kiss the Ground, kisstheground.com and Savory Institute, savory.global offers great information in text and videos featuring best regenerative practices such as no till, high diversity cover crops, crop rotation, multiple crops, holistic multi paddock grazing and more.

We need to expand these practices all over the world, ALGOA can have an important role in it.

Oliver Gardiner – Other good practice is the use of indigenous/local seeds, in the right climate conditions, soil and water availability, will have less pest and diseases.

Rolf Kevin – Pressure from seed companies to use commercial, patented GMO seed varieties are a constant contrary force. It is necessary to secure Governmental support for regenerative agriculture by breaking the bonds between National Governments and aid programs that serves the chemical-and industrial farming interests.

Oliver Gardiner – Companies offer/loan the seeds to farmers in the first year, and they produce with high yields in that first year, but in the following years, productivity decrease unless they use inputs (fertilizers and pesticides), and the farmers need to borrow money to invest in those production factors, became indebted.

Ramon Uy – Philipines (Negros Island) – Farmers sometimes produce corn to sell and then buy rice to eat. Why not to produce rice? It is a vicious cycle, related with the pressure of seed companies.

Oliver Gardiner – farmers training is the key, to widespread regenerative agriculture

Kianga Mdundo – Pastoralism. Pastoralism is a form of agriculture where you use grazing animals. In Tanzania it describes a situation where owners of grazing animals are graze on farmers lands.

Rolf Kevin - the role and combined effect of microfinancing (GMO and hybrid seeds) and chemical industry, that are pushing to the use of fertilizers and pesticides?

Kianga Mdundo - Tanzania – GMOs are not allowed in Tanzania. Nevertheless, local seeds are disappearing, due to the interest in commercial ones. Government are subsidizing the commercial and more productive seeds, and farmers are not using local seeds. Government don't emphasize the importance of using local seeds, but at local level efforts are appearing and trying to preserve and incentivise the use of local seeds. A civil society organization is working towards the preservation of autochthonous seed.

Oliver Gardiner – Agave is the “bamboo of dry lands”. You can find it in all the territories that were occupied by the British. It is an invasive plant, that grows in every dry land. It is native from Mexico. People use it to do candy (gum syrup?), for animal feed (specially the American blue), combined with trees (can help to rehydrate landscape). Agave can grow with no water. It is very productive and cheap. Other uses: Textiles, creams. Productivity figures of Agave: 1Kg of Agave feed = 0.5\$; 7Kg of Agave Feed =

1Kg Organic lamb or mutton.

Kianga Mdundo - Tanzania – Some farms are producing agave, but it was almost abandoned. The interest is raising due to the use for textile industry – mainly carpets; the ashes are used for crop protection and to preserve seeds. It takes a very long period to decompose, so it is not used for composting. The local species is Agave sisalana.

Godson Mlavi - Tanzania – extensive grazing, with animals free, without artificial feeding, or the need to fertilize pastures. Pastoralism is the most relevant activity. Education is needed to increase productivity, e.g. use of paddocks. The land is communal, so it is not easy to have your own pad, and establish a rotation, because the farmers do not have control on the land.

Sharing ideas, networking, early information to farmers is essential. Transition to biochemical pest control is necessary.

Taro Yoshida - Japan – central part of the mountains. Local government officers promote organic agriculture. Increasing the carbon in atmosphere is the main concern.

Topic 4. Regenerative / Organic Farmers and Society

- What can regenerative/organic farmers do for local/regional/national society? How can society help regenerative/organic farmers?

Points from Discussions

Gloria Ge – China

MESSAGE “We need to establish more networks like PGS/CSA for small scale of organic farmers, which need NGO/governance for engagement of the networks establishment.

We also need communication to awaken the awareness of consumers for the benefit of organic food and enhance the trust of the organic food producers. That is what Abovefarm is doing now.”

Topic 5. Regenerative/Organic Farming and Human Health

- How to increase nutrient content in food? Is nutritious food medicine? Will it make humans more resilient to pandemics?

Points from Discussions

Gloria Ge – China

Conclusion: "As long as soil is healthy, the food is healthy. Nutrient content is balanced within certain food. Food diversity is more important other than enhance one food nutrient".

Topic 6. Regenerated/Organic Farming and the Opposing Forces of the Chemical & Technological Industrial Complex

-How to withstand increased push for GMO seeds, chemical agriculture, especially in the South?
What can GAOD do?

Points from Discussions

Is the chemical and tech industry using the Covid-19 pandemic to instil fear and public obedience to chemicals in agriculture and chemicals in vaccines?

Gloria Ge – China

MESSAGE "Some conventional farms are afraid of production loss if not using chemical agriculture. We lack example of good practices of organic farms >100 ha".

2. Reports from Work Group 5

- Social Issues. Social Agriculture - Communities' Enforcement - Urban-Rural Relations

Objectives of the Work Group

Support the Organic Districts in the development of activities related to the start-up, management and organization of activities related to the improvement of the social conditions of the Eco-region Communities. This involves the strengthening of the community bonds, the creation of a virtuous cycle linking the urban and rural areas where the Eco-Region exist. By facilitating exchanges of ideas, experiences and simply increasing the level of mutual knowledge among people living in urban and rural areas, a mutual benefit for the communities will be provided. Integrating socially fragile and marginalized people within inclusive Eco-Region communities is also another area of intervention this WG will consider in its activities.

Generally, Organic Districts are in rural areas and their main activities are related to agriculture. They supply the local population but also to the population living in cities. Seen in the perspective of the need for an integrated food system approach for healthy and environmentally friendly dietary patterns, this opens up for developing new rural-urban linkages to provide more and better jobs for youth in agriculture and food systems and in general, a potential for the revitalization of rural areas.

Participants of this Work Group

Vesa - Matti Loiske (leader, Sweden), Janet Gracie (South Africa), Yumiko Fukui (Japan), Didit Pelegrina (Philippines), Irene Casiño (Philippines), Gianluca Di Fiore (Spain), KIM Assaël (Italy)

Presentations and references

KIM Assaël from IDEASS programme (www.ideassonline.org) and INNER (www.ecoregions.eu) made a presentation about the basic ideas of Bio- districts, the establishment governance, organization, Strategic Local Plan and innovations. The full text in the GAOD homepage (<https://gaod.online/>).

Summary from the Work Group

Tuesday October 13, 2020

- Importance of having farmer organizations
- Farmers need to be included in research, should be joint, ideally the farmers help set the objectives.
The need to combine formal science + farmers.
- Research should be multisectoral, linkages among various stakeholders
- Information has to be relevant. Make it universal.
- Element of Culture= Social dynamics
- Policies and researches not well adapted by family farms (Japan)
- Research has to be done from the bottom
- Knowledge will empower farmers.
- Learning centers to be attended by farmers, farmers will eventually organize themselves into systems.
- PGS- consumers and farmers, working together in a community. The need to link the market. And importance of trust (social cohesion)
- Importance of integrity
- Ecology + economic + social + culture
- Need to fund farmers
- Promotion of local food- as healthier vs. consumption of imported food
- Impact of Free Trade and dumping of goods

- Global policies should be changed, “ if you cannot feed your community, one should not be allowed to export food”

Wednesday October 14, 2020

- Bottom – up programs are more long lasting than government initiated programs.
- Public procurement can be done. Example in the Philippines where relief packs during COVID included fresh produce instead of canned goods. Linkage of market and the farmers.
- 4 pillars – production, distribution, economics, and marketing/communication
- True cost accounting—value chain
- Best practice studies.
- Build resilience from the bottom. Localized solutions. Increase farmer’s knowledge.
- “Food webs” instead of food chain. Similar to a computer system, where there are server’s linkages that provide feedback.
- The need to understand the food webs
- Common understanding of the Participatory Guarantee System
- Social agriculture
- Zambia project that reduced hunting, the community was able to produce their own food. Agroforestry concept.
- The need to address the urban poor
- In the Philippines, organic food is subsidized, community garden, community kitchens,, CSA (Community Supported Agriculture
- Fast urbanization rate
- Raising awareness in food production in urban areas (Spain)
- Tanzania, people still own lands in their hometown, strong rural-urban relationship due to food
- Popularity of urban agriculture in Havana, Cuba
- Japan, younger Japanese wants to move to rural areas

Thursday October 15, 2020

Farmer participation in research, projects governance, as part of recognizing farmer knowledge systems, and building their agency/capacity to leverage power/create changes.

- strengthen local food webs/food hubs by connecting different stakeholders, looking at rural-urban linkages.
- build on PGS beyond a market certification system but also looks at food and nutrition security of communities and then moving towards marketing; PGS as a tool that can pivot us to support self-organized groupings of food webs/food systems
- Inclusiveness of food hubs/webs by supporting younger generation to get into farming and enable them to be independent by exploring new systems of engagement.
- Ensuring transparency and trust in the convergence area (hub/webs/GAOD) and linking different convergences.
- Shift mindsets by providing pathways for consumers and producers to participate in organic food systems.
- To show that organic food systems delivers on SDGs.

Final output and feed back to the GAOD Declaration

- To shift mindsets, marketing of Organic values to create a common understanding.
- To build capacity of all stakeholders to develop good governance structures.
- To aggregate all stakeholders in foodshed enabled through the PGS system.

3. Best Practices

Organic Food System Case Study Project – University of Kassel

By Lilliana Stefanovic, Sebastian Kretschmer, Tooba Jamil, Prof. Dr. Johannes Kahl

Department of Organic Food Quality and Food Culture, Faculty of Organic Agricultural Sciences, University of Kassel

Introduction

To achieve better progress in the realm of sustainable production and consumption, and ultimately reach all the goals of the Agenda 2030, it is vital to capture the key processes and interactions of food systems (Kahl et al. 2016). The Organic Food System (OFS) can provide helpful insights in this process serving as a “living laboratory” for sustainable food systems (Strassner et al. 2015: 4).

Therefore, it is essential to study and document real OFS cases around the world linking organic production to organic consumption, while capturing the whole complexity of organic as a system. For this purpose, eleven case studies of Organic Food Systems (OFSs) around the globe have been selected by the research team of the Department of Organic Food Quality and Food Culture of Kassel University, Germany. Cases have been selected based on several predetermined criteria (e.g. presence of both production and consumption in assured organic quality, presence of jurisdictional boundaries, etc.).

Documentation aimed at disclosing the developmental stages of the OFS cases, the key actors involved and their relations, ethics and motivations driving the actors to engage in the OFS and, finally, the effects stemming from these systems. For this purpose, a single case study design was employed as described by Yin (2014). Each case study has been performed as an individual master thesis project supervised at the aforementioned Department. Data collection within each of the cases was carried out in situ, with preceding explorative Skype-interviews with the informant(s) of the respective cases.

The documentation process involved the following data collection methods: analysis of secondary data, Skype- and personal face-to-face interviews as well as observations. Eleven selected cases have been documented over a one-year timespan, with the first data collection performed in February 2019 and the last – in January 2020.

The following OFS cases have been documented: Wellington Region (New Zealand), Goesan County (South Korea), Bislig City (Philippines), Tamil Nadu State (India), Manyara Region of Tanzania (East Africa), South-West Region of Nigeria (West Africa), Quito Region (Ecuador), Chester County in Pennsylvania (USA), Södertälje Municipality (Sweden), Mouans-Sartoux Municipality (France) and Cilento Biodistrict (Italy).

Key actors, their relations and ethics

The key actors of the documented case studies range from farmers, processors, cooperatives, community gardeners through distributors and consumers to certifiers, NGOs, representatives of research and academia as well as local administration. All key actors interact with each other in the form of discussions, information and knowledge exchange and/or support of different kind (i.e. transactions, counseling, training, etc.). Generally, knowledge exchange, communication and collaboration depend on the nature of groups and associations involved (Kottila and Rönni 2008).

The documented interactions within the OFSs under study revealed a high degree of collaboration and solidarity to work towards a joint goal based on shared ethics and vision. Actors' ethics range from religion, family values, awareness raising and knowledge dissemination, health consciousness to transparency, trust and altruistic orientation, including animal welfare and environmental protection. Likewise, the primary concerns revealed in the cases were individual health and care for the environment. The key actors perceive their OFSs as a healthy way of living, both for human beings and the planet. Furthermore, locally produced organic food could be identified as a value in South American and European cases, whereby biodiversity has been emphasized in North and South American cases.



(Photo Credit: Goesan County / Members of the OFSP - From left to right: Sebastian Kretschmer (co-author), Zhou Zejiang (IFOAM Asia), Vic Tagupa Sr (ALGOA), Tooba Jamil (co-author), Jennifer Chang (ALGOA), Lilliana Stefanovic (co-author), Carola Strassner (OFSP Steering Committee), Jostein Hertwig (OFSP Steering Committee)

Drivers of the OFSs

Organic actors have moved beyond the direct action of individual growers and consumers, toward efforts that are seeking to coordinate a growing number and diversity of actors to have bigger impact both geographically and temporally (Starr 2010). What has emerged are polycentric networks and organizations, which are referred to as OFSs. The OFS documentation project has identified a global pattern of drivers revolving around an intuitively ethical agenda that conforms with core principles of sustainable development.

The mindset-based drivers revealed in the documented OFS cases may be portrayed in a psycho-social manner, oscillating between the notions of environmental sustainability and personal wellbeing, which matches ethical considerations. OFSs are driven by a set of sustainability-based ethics and principles, which provide a kind of “social glue” or binding element for a certain cultural development (Skog et al. 2018).

Effects of the OFSs

The key actors of the eleven documented cases perceived certain effects from the OFSs they are engaged in. General categorization of the identified effects is in line with the revealed ethics and drivers. Likewise, one can differentiate between social, ecological, and economic effects as well as individual and communal implications, with the latter two corresponding to egoistic and altruistic motivations (Kareklas et al. 2014; Vega-Zamora et al. 2020).

For instance, ecosystem recovery has been identified as a primary effect of the European cases as well as in South Korean and New Zealand cases. Individual health along with social and economic effects were the dominant effects perceived in the African, South and North American, Indian and Philippine cases. Here, improved health, job creation and income, increased participation, advocacy and awareness have been revealed. At the communal level, solidarity, increased participation with closer links between farmers and consumers as well as knowledge dissemination and networking have been disclosed. Among negative effects, labor intensity of organic agriculture coupled with lower yields and difficulties in managing pests and weeds as well as economic hindrances (e.g. market, costs of production and certification) have been named.

Conclusion

The documentation results provide first insights into the functioning of the OFSs as well as the mechanisms underpinning it, the way these are perceived by the key actors engaged in the systems. Through a better understanding of what drives the OFSs, how they operate, what underpins the collaboration within the systems and what the perceived results from these interactions and actions are one can grasp a fuller picture of organic as a system, the OFS, and its potential contribution to sustainable food systems.

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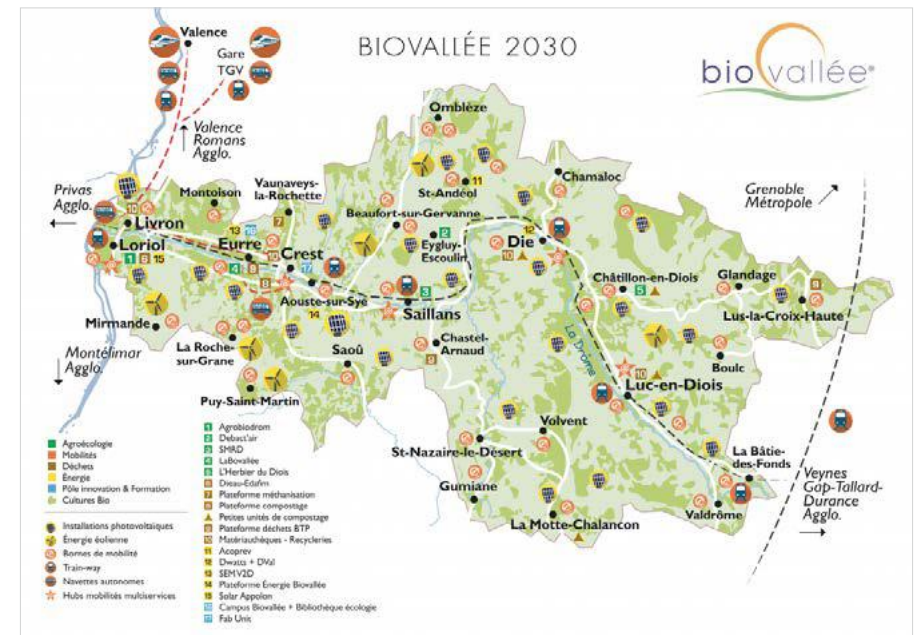
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Best Practices from the Five Continents According to Country

(France) Biovallée, “Making the radical mainstream and the mainstream radical”¹

By Sandie LAURENT-PEIRIN, Chargée de projet, Association des acteurs de Biovallée®



Introduction

The Drôme Valley is a rural area of 2,200 km² in the Rhône-Alpes region in the South-East of France.

¹ IPES-Food, 2018. Breaking away from industrial food and farming systems: Seven case studies of agroecological transition. http://www.ipes-food.org/_img/upload/files/CS2_web.pdf
Source: communication@biovallee.net

Surrounded by dramatic mountains, the Biovallée® encompasses 3 communities of municipalities and 102 towns and villages with 54,000 inhabitants. This territory's big project is to become a national reference in terms of sustainable development and a model of alternative environmental human development.

Our story starts with the settlement of new actors on the territory during the 1970's. These pioneers, with a different and strong belief in sustainability, reconnection to the land, have implemented the first organic farms, breeding animals, raising vegetables or herbal plants. Public authorities worked along these pioneers with the same concerns. Facing the fantastic challenge of regenerating a river, they promoted global and collective approaches: massively mobilizing citizens to clean up the river and developing protection guidelines. In the span of 20 years it would go from a dump to one of the most beautiful rivers in Europe.

A global integrated sustainable development

50 years later the dynamic is still on and have spread throughout the territory. Companies in the



Biovallée have produced over a thousand jobs in organic agriculture, in the food-processing industries, in aromatic and medicinal plants, in developing environmental protection and organic production methods. It is the whole food system which is represented: the company Bioline breeds insects as predators for organic cultures, many AMAPs, groups of farmers insure a direct link to the consumer, the aquaponic farm Carpe et Capucine produces vegetables and fresh fish while saving water resource, Terre de Lien buys and rents farms all over France in order to develop organic farming, the Carline, a cooperative grocery sells organic and local produces for 12 000 clients per week.

Meanwhile, public authorities develop different policies under contract with sustainability always as part of the deal. They first had the support from the Region and now benefits from the success of the Territory of Innovation, program directly funded by the Investment Plan of the government through the non-profit organization Association des Acteurs de Biovallée®.

The strength of Biovallée® lies also in the diversity of its actions, not only for agriculture processing but on many areas: lodging energy saving like renovation platform DOREMI (operational organization for energy renovation of individual houses) or conditioned wood to heat homes, energy production by solar power plants in villages, car recycling, green tourism with the constitution of a network of eco-BnBs, mobility... This highlights how sustainability is considered as a whole on the territory.

Impacts

When businesses, associations and public authorities work together, the result is stronger and create a ripple effect. Today, Biovallée is at the first national rank in organic agriculture (35% of surfaces), the first territory of the region for the use of renewable energy in housing and the first "territory school" in terms of education and training on sustainability.

We want to go further and by 2030, we want to...:

- Have 80% of agroecological farms
- Have 80% of organic and local food in canteens and collective restauration

- Reduce by 50% the consumption in energy, while quadruple our production of energy
- Reduce by 30% the emission in CO²
- Reduce by 30% our tonnage of waste

With the constant work of everyone, inhabitants, local authorities, companies and associations, we know we have the power to face the future challenges.

(India) BERAS India and seven Local Sustainable Food Societies.

By Dr. K. Perumal, Head BERAS India, berasindiaperumal@gmail.com

BERAS India was founded in 2014. The objective is to support small holder farmers and food businesses following the universal concepts of Ecological Regenerative Agriculture, Diets for a Green Planet and Local Sustainable Food Societies.



BERAS India, Local Sustainable Food Societies and Learning Centres

Ladakh:
Ladakh LEHO (Ladakh Environment and Health Organization)

Tamil Nadu:
Jezreel Farms
Kudumbam
Inba Seva Sangam
CIRHEP
Muhil
Annapurna Farm in Auroville

1. Ladakh - LEHO (Ladakh Environment and Health Organization)

By Dr. Mohammed Deen, mohammed.deen@yahoo.com

Homepage: www.leho.in

Ladakh is the highest plateau in the state of Jammu and Kashmir with much of it being over 3,000 m. It extends from the Himalayan to the Kunlun Ranges and includes the upper Indus River valley. Ladakh is a high altitude desert as the Himalayas create a rain shadow, generally denying entry to monsoon clouds. The main source of water is the winter snowfall on the mountains.

The main area of work for Ladakh Environment and Health Organisation (LEHO) is sustainable development, ecology, and health.

LEHO works in 46 villages with organic farming models and education of farmers.

LEHO has a close relationship with the local government LAHDC (Ladakh Autonomous Hill Development Council) in particular to develop a policy for organic farming, organic food production and consumption.

LEHO has developed the 'passive solar greenhouse technology' to produce vegetables in winter in remote areas of mountain regions. The technology is simple, local resource based, low cost, environment



friendly, efficient and having acceptability from the community. It has the natural advantage of having lots of sunshine in the winter months. (picture: LEHO)

2. Coonoor, the Nilgiris – Jezreel Farms

By Mahesh L. Melvin maheshmelvin@gmail.com

The district of Nilgiris is basically hilly, lying at an elevation of 1,000 to 2,600 m. The elevation of the Nilgiris results in a much cooler and better climate than the surrounding plains. During summer the temperature reaches a maximum of 25°C and a minimum of 10°C. During winter the temperature maximum is 20°C and the minimum 0°C. The district regularly receives rain during both the Southwest Monsoon and the Northeast Monsoon. The main cultivation is plantation crops such as tea and coffee, but with some cardamom, pepper and rubber. The area has good conditions for horticulture.

A major task is to find viable organic alternatives to tea plantations. The tea plantation today covers a large area in the Nilgiris. Predominantly the plantations are conventional with intensive use of mineral fertiliser, herbicides and pesticides. This has negative health effects for the workers, the soil and the environment.

The initiative is connected to 11 individual small farms, and four NGOs representing more than 130 farmers. A general challenge for these farms is the inclusion of animals and through this to be able to produce their own manure and apply effective composting methods. Combined farmer training programmes have been conducted in a few tribal villages.

There is a need for capacity building in many other aspects of primary production and also to discuss and develop ideas on value addition for the products. A small wholesaler for organic vegetables and fruits has been established with regular deliveries both in the area and to Chennai. There are also plans for setting up an organic restaurant.

There are good relationships with the Department of Horticulture and Horticulture Research Centre of Nilgiris.



Mahesh L. Melvin visiting tribal farmers



The BERAS team in Coonoor

(Photo Credit: A.K.Hertwig)

3. Kudumbam

By Oswald Quintal and Suresh Kanna berasindiasureshkannak@gmail.com

Homepage: <http://kudumbam.in/>

Kudumbam was founded in 1982 by Mr Oswald Quintal, Dr Nammalvar and Mr Perianayagasamy.

The vision of Kudumbam is to strengthen vulnerable communities through the building of a multi-stakeholder partnership for the preservation and regeneration of native flora and fauna, in order to ensure a sustainable livelihood.

Kudumbam is currently working in 15 panchayats covering about 45 villages that are undergoing periodical training programmes aimed at the creation of Bio Villages.

- They organise annual seed fairs and festivals on millets, vegetables and paddy, and encourage farmers to participate in seed distribution and seed sharing and also knowledge sharing.
- Periodical and Seasonal long training programmes, practical demonstrations, exposure visits, seed production, training on soil and water conservation techniques and livestock management are some of the education efforts.

Since 1990, Kudumbam runs an ecological farm and training centre called "Kolunji" located in Odugampatty village, Pudukkottai district. The area is dry and the cultivation is dependent on the monsoon rains. The idea was that farmers in the nearby villages would be motivated and inspired to start organic farming from the practical example of Kolunji.

Kudumbam collaborates with officials and authorities from departments of agriculture, animal husbandry, forestry, agriculture engineering, NABARD (National Bank for Agriculture and Rural Development), Department of Co-operatives, District Collectors, Local Panchayat Presidents, etc., and inviting them to participate in its programmes, trainings and meetings.



Kudumbam Farmers' Stall at the Organic Exhibition, Trichy.



A group of participants trained at Kudumbam Kolunji Local Learning Centre for organic agriculture.



Kudumbam team:

(Photo Credit: Kudumbam)

4. Inba Seva Sangam (ISS) – Sevapur, Kadavur district

By Dr. K. Perumal berasindiaperumal@gmail.com

Homepage: www.inbasevasangam.org

Inba Seva Sangam (ISS) is an Indian NGO founded in 1968 and based on Gandhian principles of nonviolence and welfare of everyone.

Dr. K. Perumal: "Core values of ISS is truth, non-violence, selfless service, love, brotherhood, self-reliance, mutual understanding, reverence to all faiths and nature, mutual cooperation, dignity of manual labour, devotion, dedication, confidence and discipline."

ISS has as its main objective to work for the rights of the rural poor, and to enhance their social and economic status. ISS also seeks to promote an ecologically sustainable way of life. ISS target groups are mainly orphans and vulnerable children, vulnerable women and poor peasant families. The organisation runs two homes for children (with a total of about 300 children) and one Higher Secondary School (HSC) up to standard XII and one Community College for rural youth and adults. It works with training and micro loans (through Self-Help Groups for women), provides literacy programmes and runs 20 "Community Evening Study Centres".

ISS also works with water management and the rehabilitation of eroded and abandoned farmlands. ISS owns and runs a biodynamic farm on 13 ha and a herbal garden and nursery area of 1.5 ha for the conservation of endangered species. It has a network of contacts to the organic/biodynamic organisations across the country, and it supports eco-clubs at 140 schools and 300 self-help support groups for women in 70 villages in the area.

ISS collaborates with officials and authorities from departments of agriculture, animal husbandry, forestry, agriculture engineering, NABARD (National Bank for Agriculture and Rural Development) Department of Co-operatives, District Collectors, Local Panchayat Presidents etc., and inviting them to participate in its programmes, trainings and meetings.

Main activities of Inba Seva Sangam (ISS)



Annai Lea Higher Secondary School

Established as Senior School in July 2005 and subsequently elevated to the status of Higher Secondary School in 2010 with two sections in the higher classes



Small Farmers Empowerment

To promote organic farming, land improvement measures, processing of food, sales, and to increase awareness on environment and health aspects



BioDynamic School

ISS started the first bio-dynamic college in India. In the state of Tamil Nadu there is an urgent need to promote organic and biodynamic farm practices for sustainability purposes.

(Photo Credit: BERAS India)

5. CIRHEP (Natural Resource Management)

By Mr. P.M. Mohan and K.A. Chandra berasindiacirhep@gmail.com

Homepage: www.cirhep.linghag.se

Centre for Improved Rural Health and Environment Protection (CIRHEP), a registered NGO established in the year 1994, functions in the districts of Dindigul, Theni and Madurai of Tamil Nadu, India. CIRHEP is committed to the cause of environment protection especially managing water and soil resources sustainably and its efficient utilisation for the benefit of present and future generations.

CIRHEP works with farmers promoting organic agriculture and bio-dynamic inputs in their watershed areas, a producer company, promoting a sense of responsibility through environmental education, working for women empowerment, working with adolescent girls and children as part of an integrated community development approach with an intention to reduce poverty, improve livelihood and access to enough quality food for rural people to lead active and healthy lives.

CIRHEP has established the Kadavakurichi Sustainable Agriculture Farmers Producers Company. This market initiative supports small and marginal farmers to get support for marketing their organic products.

As part of soil and water conservation measure CIRHEP has been doing its pioneering work in watershed development programmes since its inception. The aim of watershed development is to store and conserve water where it falls, within every village, under the direction of the especially constituted village watershed committees. CIRHEP has implemented ten watershed projects so far in Dindigul District covering about 50 villages with the funding support of NABARD and TAWDEVA; there are 3,500 beneficiary farmers in an area of about 11,500 ha.

CIRHEP has a centre for natural resource management. This centre serves as a hub to transfer experiences in watershed development, biodynamic/organic agriculture, livelihood intervention, and other related concepts to farmers, rural women, youth, children, NGO staff, government officials, students and international visitors.

CIRHEP works closely with local government, panchayats and development departments. They extend its programmes to communities in collaboration with departments of agriculture, animal husbandry, forestry, agriculture engineering, etc.

Below some images from the daily work of CIRHEP



(Photo Credit: BERAS India)

6. Muhil – Sustainable Agriculture for Everyone (SAFE)

By Dr J S A CASIMIR RAJ (drCASIRAJ@gmail.com)

By Fr V Clement Joseph CSsR (clementvincent5@gmail.com).

Homepage: www.muhiil.org

Co-workers at Muhil



(Photo Credit: A.K.Hertwig)

Muhil was established in 1992 inspired by the UN project “Health for all by 2000”. It is situated in a rural area outside the city of Madurai. Muhil work covers 80 nearby villages where they offer health and other community services. Since 2004 MUHIL has been engaged in biodynamic farming among the farming families of 40 villages in the Madurai district. This work is based on a holistic approach for the village people:

- Assurance of daily occupation and medical care;
- Sustainable agricultural economy and with market facilitation;
- Prevention of migration of rural population to urban areas;
- Protection of social and natural environment as vibrant rural economy.

A major further achievement was a project to rejuvenate farm land close to the MUHIL premises and with the establishment of Karmuhil Organic Farms. This project has been extraordinarily successful. With the persistent and skilled use of intercropping, planting of trees, cow manure, different compost methods and watershed management, the soil has been regenerated and is now in full use for growing vegetables, pulses, millets, and fodder for the animals, plant and trees for the distillation of essential and aromatic oils.

KARMUHIL ORGANIC FARMS has launched an Organic Farming Project, which includes Training Programmes as follows:

- 1) To target a total of 600 persons, farmers (200) and farm workers (400), to be trained by the end of 2018.
- 2) In order to consolidate efforts completed in 125 ha to extend to another 100 ha, total 225 ha by 2018.
- 3) Promoting organic food or recommended diet along with the prescribed natural (herbal) remedies or medicine.

Muhil has started a producer company, a small organic shop and plans to open a restaurant.

MUHIL has been an active partner in participating in all the public sector schemes and programmes for Village Community Health Services, planting of trees to protect environment, rain water harvest plans to conserve water and prevent top soil erosion, digging of agri ponds and canals to facilitate improvement of rain-fed cultivation, etc.

7. Annapurna Farm in Auroville

By “Tomas” (Geert Tomassen) – in charge of the farm (tomas@auroville.org.in)

By Lucas Dengel – for communication with BERAS India and BERAS International (lucasdl@auroville.org.in)

In 1966 UNESCO commended the “Auroville Project” in Tamil Nadu India as a project of great importance for the future of humanity, thereby giving their full encouragement. Today – almost 50 years after its inception with a population of 2550 – Auroville is recognised as the first and only internationally endorsed ongoing town–experiment, anticipating the unity of man. The holistic thinking of Auroville is based on the principles of organic and sustainable agriculture and around 20 organic farms grow food for the community.

The 55 ha Annapurna Farm is the community’s largest and only certified organic farm. The farm was started 30 years ago on a barren tract of land. Today Annapurna produces grains, fruits, and dairy products for the community. It also functions as the granary of Auroville by storing and processing grains grown on other Auroville farms and some organic farms from the bioregion.

While growing food for the community, the farm is exploring ways to improve and adjust to the ongoing challenges of the everyday reality. Many questions about sustainability, nutrition, efficiency, economics, wild life, water scarcity and much more are the daily challenges the farmers have to deal with. For this reason, the farm keeps track of ongoing activities; data is being collected and learned from by farm stewards and volunteers/students.

Besides the ground reality the farm has a spiritual base in which individual growth and development has space to flourish. Working on the farm is more than getting the job done and is a means to develop one’s being.



(Photo Credit: Annapurna Farm)

Auroville's economic life includes aspects of capitalist and socialist principles; there is no private ownership of land, housing, and immovable assets but on the other hand, individual leadership and entrepreneurial qualities are welcome. Basically, there are "service units" and "income-generating units". Stewardship is given to the individual by the working group of the particular sector.

The 125 income-generating units generate profits which help to sustain part of the Auroville economy as a whole. Annapurna Farm is considered a "service unit" and is not focusing on profit generation but on producing healthy organic food for the community. The farm aims to break even and to generate a small profit to deal with eventualities. This means major infrastructure has to be provided for by fundraising or community support.

(Italy) DIBIUM Eco-Region

By Michele Barchiesi, President, info@dibium.it



In Italy, there are 20 administrative regions, with Umbria being one of them and the Eco-Region DIBIUM (Distretto Biologico Umbro) was established within it.

It is the first Eco-Region created on a regional basis. There is also a network of agri-food professionals united in an ambitious project: participate in the creation of an innovative eco-region starting from the role of organic agriculture, connected in synergy with local communities and accommodation facilities, authorities and training institutes, to contribute to the development of a conscious and critical, sustainable community of the territory. With the programmed actions, the landscape will be the protagonist of the development of a virtuous system, which will combine agriculture, tourism, and enhancement of natural and cultural assets. A place where it will be a pleasure to live and work as part of a community logic, placing trust in one's own territory and the nature that contains it at the center of social life. The countryside will once again be a meeting point- social and educational points for the new generations.

The Dibium network is made up of exemplary companies for their sustainable vocation and virtuous relationship between tradition and innovation. It ranges from biodynamic goat farms for the production of exceptional goats, to the use of geese in the vineyard as an instrument for controlling and protecting the land, passing through pig farms in the wild among woods and vineyards. Ancient practices that have come back today, such as the culture of wild and country herbs, and hemp, a large multifunctional plant

that develops different supply chains, from beer, to flour, seeds, flowers, with interesting developments for health and well-being and, finally, green building. The ancient art of bread-making, integrated with flours produced from organic agriculture, with the curiosity to always experiment with new potential, together with legumes and cereals of which this land is rich.

The ambition to create a single territory without harmful contamination is not only possible, but it is already underway. At this moment, civil society can play a fundamental role in restarting some economic sectors that have not been adequately exploited until now:

- eco-tourism,
- the possibility of supplying school canteens with sustainable local products, accompanied by correct information to be provided to pupils, calibrated according to age and the institutions they belong to;
- sensory paths through the campaigns to be carried out with various options, with the concrete possibility of creating high-profile experiential tours, so as to intercept and build a network ready to welcome and organize a virtuous and sustainable strategic planning system for the Umbrian territory.

DIBIUM acts on 3 main axes: sustainable agriculture, eco-tourism, strategic formation of the territory.



(Photo Credit: Umbria Territory - DIBIUM)
www.dibium.it

(Japan) The Case of Organic Fukushima Adachi

By Yoko Taniguchi, Assoc. Prof., Setsunan University, Japan

Organic Fukushima Adachi is a group of farmers consisting of 25 members in the Nihonmatsu and the Otama areas in Fukushima prefecture, Japan. The group had lost more than 90% of their sales by the third year after the accident at the nuclear power plant, located 50 km east to the area. Faced with the crisis, the group sought every measure to recover the farm economy, including the launch of a partnership with a local supermarket chain, Ichii.

Now the area had become one of the few places in Japan where consumers can easily access locally grown, fresh, and certified organic produce.



Unique Approach

1. Collaboration with local logistics and wholesale company, Dairy Service. The company's trucks collect vegetables at each farmyard, pack them immediately in their facility, and deliver them to the stores within the same day.
2. Low-risk contract with Dairy Service. Dairy Service purchases the produce from farmers, with the full transfer of property rights rather than on consignment basis and bears all the risk of the unsold stock. Farmers do not pay the cost of delivery nor handling fees.
3. JAS organic certification. Unlike many other local organic food initiatives, their approach is unique in the sense that they stick to third-party certification, thereby enabling their produce to be labelled as "organic" to be sold in supermarkets.
4. Stakeholder meeting. All those involved in the food chain get together once a year and get to know each other over a drink. This meeting has been helpful in altering the mind of buyers at the supermarket.

Impact



1. The produce of the farmers have gained popularity and the sales have grown rapidly as well as the number of stores selling the produce. Sales of the produce have recovered and reached beyond the level prior to the nuclear accident.
2. The Dairy Service's logistics system and the low risk contract arrangement allow elderly farmers and new farmers to supply their produce with ease.
3. Other players in the local food system including conventional farmers, retailers and consumers started to become part of their network, improving the truck loading ratio and strengthening the existing partnership.

Sources

1. Organic Fukushima Adachi, Website: <http://organic-fa.jp/>
2. Dairy Service Website: <http://www.dairy-s.co.jp/>
3. Ichii Website: <https://www.ichii-yume.co.jp/>

(Portugal) Idanha a Nova Eco-Region

By *Armando Jacinto, President Idanha a Nova, presidente@cm-idanhanova.pt*



Idanha-a-Nova became the first Eco-Region of Portugal in 2018 and in 2019 it hosted the first Eco-Regions World Congress. The territory is characterized by the National Park of Tejo Internacional, one of the most important in Europe, the forest and quartzite ridges of Penha Garcia, the Monfortinho Thermal springs, where so many different people and cultures have passed by the years, leaving a land with a rich local identity and cultural values.

The Municipality is recognized by UNESCO in the World List of Cultural Heritage. The day 20 of February 2018, a multi-actors agreement has been signed by IN.N.E.R. and the Municipality, with the involvement of Ministry of Agriculture, Secretary of State for Forestry and Rural Development, FAO Office in Portugal, the Municipal Centre for Culture and Development of Idanha-a-Nova (CMCD), the Organic Portuguese association AGROBIO, the Raiano Documentation Centre, four other Municipal councils, agrarian and veterinary high schools, high schools of management, the National Rural Network and territorial organic producers. The main objectives of the agreement are:

- to reinforce and support all actions directed to socio-cultural, environmental and economic sustainability through the direct and conscious participation of the citizens;
- to improve the organic agriculture of the territory;
- to integrate the nature with the culture of the territory, in order to make this relationship a strategic factor of socio-economic development.

Thanks to the multi-actors agreement signed, the promotion of organic products will be closely linked with the promotion of the territory, facilitating the full economic, environmental and sociocultural development of the Region. In terms of productivity and efficiency all agro-food enterprises that are often placed in marginal areas and the employment of young people in agriculture can be increased. The positive environmental functions of organic agriculture, like fertility of soils, biodiversity of plants and animals, the management of hydro geological instability, the protection of water, the care for the rural landscape, will also be strengthened to contrast the negative effects of climate changes, by diminishing soils and water sources pollution.



(Photo Credit: Idanha a Nova, Eco-Regions World Congress 2019)

(Sweden) Järna/ Södertälje Sustainable Food Society

By *Jostein Hertwig CEO BERAS International Foundation*²

A source of inspiration for Järna/ Södertälje sustainable food society flows from the cluster of biodynamic initiatives in Järna, Södertälje in Sweden. Here a number of foreign and Swedish pioneers for research and practical implementation of the basic organic principles of health, ecology, fairness and care provided impulses which can guide the organic movement, and which also illustrate a food system approach. It started up as early as 1930 with the work on farms and in nature as therapy. Long term field trials comparing organic/biodynamic to conventional agriculture in various aspects such as food quality and life in soil/carbon sequestration begun in 1958 and still continuing.

IFOAM came into existence in 1972 and Kjell Arman from Järna was one of the founders.



Dr. Agr. Artur Granstedt guiding a group to his field studies on Skilleby Farm in Järna. The aim of the study is to see how farm manure could best be treated and used to promote soil fertility, recycling of nutrients and minimizing negative impact to the environment.

Results from his research (1991 – 2011):

- Top soil organic carbon increase yearly by 5 per 1000
- Nutrient leakage (N) reduced by 505%

Järna is still a vibrant community with farms, gardens, food processing, wholesalers, shops, restaurants, research, education initiatives, schools, its own bank, curative homes, social and cultural activities.

Value based and holistic orientated clusters such as Järna may have an important role to play for the development of sustainable food systems. To become a real and practical working impulse for the change needed requires certain skills such as social entrepreneurship, inclusiveness, interaction and the creation of an atmosphere of openness, sharing and listening to each other's ideas, aspirations and goals. Such a step was taken by Dr. Agr. Artur Granstedt when he initiated the BERAS projects from 2003 - 2013.

The objectives of BERAS was to develop specific advice for effective recycling of nutrients at farm level and at the same time to take a systems approach connecting the whole value chain, policymakers and research. To some extent it reconnected to the path of bringing back the original good ideas forming the basis for the organic movement.

Main objectives for the BERAS projects were:

- **Present a realistic, fully integrated ecological alternative for a systemic shift in the whole food chain from farmers to consumers; and thereby to**
- **Revitalise agricultural and rural development sectors in an economically, socially, culturally and environmentally sustainable manner.**

The BERAS projects had the focus on concept development and implementation where research, innovation and entrepreneurship from a multi sectoral engagement flow into realistic fully integrated ecological alternatives for the whole food chain from farmer to consumer, for individuals but also at collective societal level.

2. Homepage: <http://foodsociety.se/en/> and www.beras.eu

The main concepts are as follows:

- Ecological Regenerative Agriculture (ERA)
- Diets for a Green Planet (DGP)
- Local Sustainable Food Societies (SFS)

Local Sustainable Food Societies are examples of local food clusters that are socially just, environmentally friendly and economically viable. They involve all actors in the food chain – from farmers to consumers and with the cooperation between universities/research institutions, authorities, business sector and NGOs.

Within each SFS there could be Learning Centres. They are meeting places- more or less formal, depending on local preferences - that engage in several aspects of a food system. Learning Centres are both in rural and urban areas. They can be on a farm, a university, a school, NGO, shop, restaurant etc. based on local preferences and opportunities.

The Järna/Södertälje cluster

The Järna/Södertälje cluster includes many of the actors that constitute a food system. In the BERAS project (2010 – 2013) Södertälje municipality took a major role in developing the food concept “Diet for a Clean Baltic” (later “Diets for a Green Planet”). In Södertälje a strategic decision was taken in 2001 “Food – the key to a better future: health, environment, good place to work, a viable community”. So here there were good synergies between the objectives of the BERAS project and the strategy of Södertälje municipality. It also resulted in fruitful long-term cooperation with the municipality and Järna. Following the BERAS project, Södertälje municipality has been involved in various projects related to sustainable food and agriculture and always with the basic holistic concepts of agriculture, food and societies developed together.

Some highlights from Södertälje:

- Today Södertälje municipality has implemented “Diets for a Green Planet” in their 90 kitchens for kindergartens, schools, and elderly homes. They serve 24 000 meals every day, and with 60 % organic ingredients.
- In the local Coop store in Järna, 34% of the total sale of food is organic.
- Saltå Kvarn which is a local wholesaler is regularly acknowledged as the “Best sustainability brand” in Sweden.

76 initiatives from the food value chain

1. Dandö gård	26. Konditori Lilla Maräng	51. ERA farm
2. Eggenmar gård	27. Langgärdsens Vårstuga	52. ERA garden
3. Mölvalvs gård	28. Maria Nybergsgård	53. Producer
4. Nilsåker gård/Sjövinge AB	29. Marskalten	54. Distributor
5. Norra Stone	30. Mikaelgården	55. Catering
6. Örnberg	31. Saga beredelse	56. Culture/tourisme
7. Skötery - Skåre - Ytternyby gård	32. Saltå By	
8. Sörbo	33. Skåre Lunch, Skåre Kaffé	
9. Uppmälby gård	34. Svalövskolan	
10. Nilsåker handelsstugugård	35. Tunabergs gruppbonde	
11. Skötery trädgård	36. Vidarinken	
12. Sköteryholm trädgård	37. Vårby By Fågelgård	
13. Skåre trädgård	38. Wagners Restaurang (Häger)	
14. Dina 2000 m²	39. Ångatan 7 Kaffé	
15. Under Tallarna	40. Örnabådan	
16. Bonifama Schenker	41. Activa Gården	
17. Lugnet's Bagelbar	42. Associa Lantbruksgårdning	
18. Almåsa gård	43. Arlapp i Arlapp	
19. Charlottenåsa gård	44. Bredsmånska Högskolan	
20. Bredsmånska Produkter/Marknad	45. Demeter Sverige	
21. Järna Mejeri	46. Ekobanken	
22. Järna vevstugugården	47. Hågeringen Skola	
23. Kånsåkergården	48. Gröna Kåsen	
24. Mårstam	49. Gula Villan	
25. Saltå Beem	50. Inthule Åkerby	
26. Alden Läs & Restaurang	51. JFF Järna Nytt Före-	
27. Coop Konsum, Hög	52. Lagerförening	
28. Coop Konsum, Järna	53. Järna kommunal	
29. DCFörä	54. Kånsåkergården	
30. SCA Köpcenter Järna	55. Kulturhuset Järna	
31. Utala Café & Lunchhandel	56. Kulturforum/Hotell & konferens	
32. Rika Hållsked	57. Kulturhuset	
33. Saltå Bäck & Kaffé	58. Skatteförärens västernärd	
34. Enskålan	59. SöH. Body's. Fotokongress	
35. Euresid Stadshuset/restauranten	60. Tidningsgruppen Högskolan	
36. Högskolan	61. Vårby Åkerby	
37. Järna Kaffé	62. Wålsås Lager + Butik	
38. Järna Naturbruksgården	63. YFF Youth Initiative Program	
39. Kaffören Kåse		

Following the conclusion of the European Union (EU) projects, BERAS was consolidated and further developed where it started in Södertälje municipality in Sweden, and then shared with initiatives in Dominican Republic, Haiti, Tanzania, and India. Of major importance for BERAS is the inclusion in the Organic Food System Programme (OFSP) as a core initiative of the Sustainable Food Systems Programme, and the work with the United Nations (UN) Sustainable Development Goals (in particular related to Goal no 12: Sustainable Consumption and Production Patterns).

KILIMO HAI



VYAKULA ASILI

(Tanzania) Manyara Organic Farming Initiative (MOFI) - Experiences from The Establishment of a Sustainable Organic Food System in Tanzania.

By *Kianga Mdundo, chairman MOFI and Vesa –Matti Loiske, project coordinator and Jostein*

Hertwig, CEO BERAS



MOFI board members Kianga Mdundo (chair), Godson Mlavi (grazing expert) and Joel Mdundo (cashier) second to fourth on the left inspecting products from MOFI organic farmers at Hanang District

(Photo Credit: MOFI)

- Manyara Organic Farming Initiative was founded as a CBO in 2015 by Hanang District Council reg.# 813
- Contact address is mofi.manyara@gmail.com
- The MOFI board has 10 members, 4 women and 6 men from Hanang and Babati Districts
- The primary target group is 200 farms distributed in ten villages in Hanang and Babati Districts 47% women and 53 % men
- The secondary target group is those who are involved in the organic food chain created by MOFI roughly 2000 persons.

First step – understanding the local people

The first step taken was to identify the interest and the stakeholders in two districts, Hanang and Babati. Through a small amount of seed money from BERAS (Building Ecological Regenerative Agriculture and Society) and the food sales company, REMA 1000 in Norway, a study of the existing food system could be performed in 2017.

BERAS also invited one of the engaged persons and board member of MOFI from Babati to a conference in Järna, Sweden in 2015 to establish links between BERAS, MOFI and the Sofia association to initiate a structured cooperation to achieve the goals of MOFI. The NGO Sofia association receives financial support from ForumCiv that is responsible for distributing earmarked NGO funding from Sida for rights-based projects in countries in the Global South.

During 2017 a plan and strategy on a sustainable organic food system was worked out based on the principles of the EU-funded BERAS project that had been implemented in the Baltic Sea Region in ten countries in Northern Europe. We will now go into some detail of how the strategy and plan was implemented to forward the experiences of the MOFI implementation strategy.

Phase 1 – food system stakeholders

Based on the intimate local knowledge of the board members of MOFI, groups of interested farmers were identified. Some of the board members were former or current district officers with diversified knowledge, skills and experiences and who had been leading various projects in groups in the two districts. This was crucial for the project as it linked the local authorities with the project already before its initiation which contributes to sustainability of the projects. These group projects were often thematically narrow based on organic techniques approaches – it could be fattening of meat cattle, honey production, local chicken poultry, specific crops, vegetable cultivation, dry land farming, organic pesticide and fertilizer production etc. None of the former projects had a holistic aim – for example to initiate a sustainable organic food system.

Most of these farmers were already “organic by default” as the cost for “modern”, i.e. chemical in-puts into farming was beyond their financial capacities.

Stakeholders in other parts of the food chain were also small scale; many sold their own products from farm gate and no proper outlets existed, some had specialized in producing and selling (or exchanging the seeds with other in-puts) local seeds, cucumbers, tomatoes, cabbage, night shed, sweet and hot pepper,

pumpkins, eggs, chicken, goats, nutritious local maize etc. No formal certification of “organic products” existed in the value chain and marketing was mostly performed from mouth to mouth. With the help of the organic food system survey and the intimate knowledge of organic stakeholders, the MOFI board identified ten groups of farmers with 20 farms per group distributed in 10 villages. The groups and the villages were chosen according to the existence of interested farmers, the climatic and soil conditions as well as poverty criteria. One particularly important criterium was to cover as many different socio-economically marginal groups and physical preconditions to get a good coverage of varying preconditions for farming.

Phase 2 – looking further into local needs

It was very important to start the project by inviting stakeholders from the whole organic food chain and to see too that also traditionally marginal groups as women, youth, poor, disabled and elders are represented in a fair way in the project. In phase two a Logical Framework Approach (LFA) was used to guarantee that the project was in tune with local needs and that the most pressing local issues were prioritized. This is one of the most efficient ways to create trust between the members and the leaders of the project. A problem ranking and the problem formulation tree showed clearly that a) food security was the most pressing issue among the group members. b) Land tenure security was the second most important issue for the farmers. c) Lack of capital resources was also prioritized by the farmers. Many other more farming specific issues were also brought forward as pressing such as d) access to local seeds, e) access to organic pesticides and fertilizers, f) water harvesting/saving technologies, g) increasing yields per acre and h) market access, i) fish farming for protein source, j) soil husbandry and environmental conservation. All these issues were considered when the project plan was formulated and a ten-year LFA plan was developed and agreed upon. The main strategy to start solving these problems was to discuss with the group members how these different problems should be approached. Most of the farmers were aware that the project will have limited financial resources, that it can't fund expensive machinery and salaries, that a better and intensified use of available local resources is the way forward. The plan was participatory prepared and written up by the board and then presented for the stakeholders so that they review and felt that the plan was according to their views which helped when the project was initiated.

Phase 3 – organizing the work

The first year of funding, 2018, was dominated by increasing the competence of project management in the MOFI board as the funder, ForumCiv, has different routines on how projects should be administered, evaluated, and reported than the ones normally used in Tanzania. It was difficult to adjust the local administrative routines to comply with those of ForumCiv and it took the whole first year to come to grips with the new adjusted routines.

Another demand on the project was to make a baseline study that could be used to evaluate changes that was connected to the project activities. The gathering of a detailed data set took most of the first year and included socio-economic, physical, administrative, legal, and market data. The data were then summarized in the first Baseline Study of MOFI that is updated yearly to measure changes initiated by the project.

Simultaneously five different workshop schedules were developed, and workshops were held in the ten villages to get activities going. One of the biggest challenges was to translate the IFOAM East African Standard of Organic Products (EASOP) into Kiswahili to make it possible to have workshops on the meaning and rules of organic farming. Another challenge was to initiate Village Community Banks (VICOBA) in the ten groups to increase capital resources for the farmers. This proved to be successful and most of the groups have a functioning village bank today.

A study on the chaotic situation in land ownership/tenure was initiated and former projects on the issue were scrutinized and strategies to improve the ownership situation were developed. The barefoot lawyer strategy that had been used to empower farmers and increase tenure security was considered to be the most important strategy.

Phase 4 – Learning Centers

To facilitate all these changes an approach that was used by the BERAS project was implemented. In each of the ten villages one farm was designated as a “Learning Center”. Two main “Learning Centers” at district level, one at Babati and another at Hanang were also designated. The idea being that to manage activities at local village level there need to be a focal point where information, communication, communal assets, and knowledge are available. The process to identify these learning center farms was somewhat complicated as the criteria was that it should be well developed into organic farms that also could serve as demonstration facilities were also farmers outside the project could come to get information, take course, get inspired, and to buy in-puts so that the project reached outside the primary target group of 200 farmers.

The competition between farmers in the village who wanted to develop their farms into learning centers was tough and it took more than 6 months to reach consensus on which farms to assign to the learning center concept. Two of the learning centers, located close to the District Headquarters, are primary learning centers where more facilities and techniques are on display. In those learning centers green houses have been erected to further intensify per acre production and make vegetable cultivation permanent throughout the year. EM-1 techniques and equipment are also demonstrated here as well as liquid manure “plant tea” and production of organic pesticides, organic fertilizers, and local seeds of various kinds.

Phase 5 – local actions

The learning centers have proved to be hubs for spreading the idea of organic local food systems. The demand on knowledge regarding organic farming, VICOBA, green house techniques, water harvesting methods, local seeds, rotational crop systems, soil improvement, meat and poultry production, bee-keeping, fish pond techniques, etc, etc. is now increasing exponentially in the two districts.

Demand for organic food is on the increase and there is a development of organic food chains also at

higher levels. To cater for the quality and nutrition of the food a PGS certification system is developing based on the EASOP principles which require frequent verification inspections and guidance through close follow up. The organizational structure of MOFI is built to be sustainable in that its board members possess various skills and when the ten year period of external support is over it is expected that MOFI will be able to start funding some of its activities.

Images from the work in MOFI (Photos Credit: MOFI)



Phase 6 - outreach

The experiences from MOFI/BERAS cooperation and from the third year of the project are that it is possible to now start an outreach of the project ideas to other areas. By using the strategy that was developed by MOFI and BERAS it would be easy to initiate organic local food systems elsewhere in Africa. By using indigenous knowledge and local resource strategy based on NGO efforts, funding could be achieved from most donors to initiate similar projects. Most donors are quite happy to fund NGO projects especially if sustainability of the projects is probable.

(Tunisia) Bio-Territoire

By Samia Maamer, General Director of Organic Agriculture – Tunisian Ministry of Agriculture, samia.maamer@gmail.com

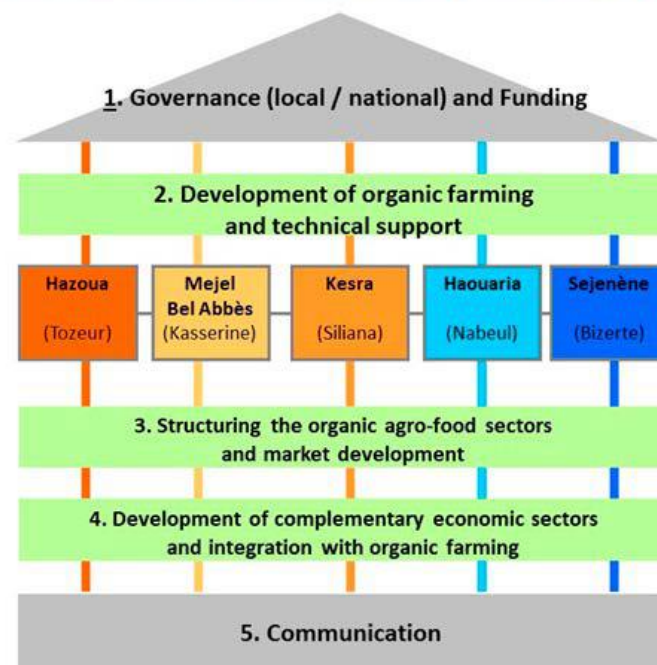


Bio-territoire is an integrated organic zone: a specific socio-agricultural area for the production of marketable agricultural products where the "integrated organic" economic approach, as well as the principles of ecology and sustainability, lead all the various local activities that can include crafts, rural tourism, processing and distribution of products.

The integrated organic economy is an economy in which all local economic and cultural activities (agricultural production, tourism, crafts, art, catering, culture, etc.) operate in an interdependent manner according to the principle of vertical integration and horizontal, that is to say both within agricultural activity and in combination with other economic sectors.



Action Plan for Bio territoires (5 Strategic goals)



Our Vision 2030

Building a Tunisian model of organic agriculture supported by better governance of the sector.

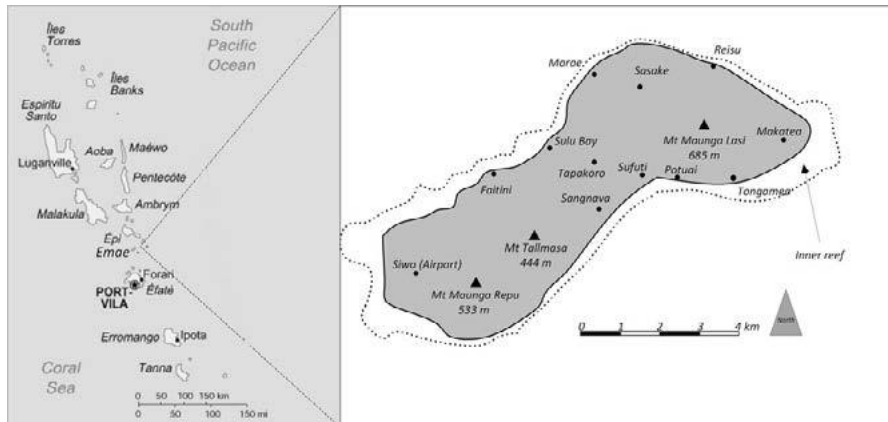
Our Values

Protect health, preserve the environment, ensure equity throughout the value chain, improve the economic profitability of the organic projects.

(Emae Island, Vanuatu) “Taking care of land and sea”

“Traditional custodians recognise organic agriculture as the basis for protecting island eco systems”

By Obed Matariki (Operations Manager, Organic Farm & Fish, Emae Island) and Karen Mapusua (Pacific Community & IFOAM-Organics International)



Map of Emae Island ³

Emae Island is part of the Shefa Province of Vanuatu in the South Pacific. It is relatively small (32 square km) and of volcanic origin with three large mountains in the interior, the largest being Maunga Lasi (685 m). The villages are primarily located around the coastal fringe.

Emae forms the northern rim of the (mostly) underwater volcano of Makura, which also covers the nearby islands of Makura and Mataso. It is 10 km (6 mi) long and up to 5 km (3 mi) wide, with an area of 32 square kilometres (12 square miles). It supports a population of about 750 in 10 villages. The primary livelihood strategies are coastal resource collection, subsistence agriculture and remittances. Cash income generation is increasing in perceived importance and is derived through the export of fish and crops to Port Vila, Vanuatu’s capital.

³ https://www.researchgate.net/profile/Graham_Witt2

The traditional governance on the island is made up of three paramount chiefs, for each of the three mountains, with a council of up to ten head chiefs that have specific roles in the customary governing structure. The Chiefs are the resource custodians and form the island council of chiefs that presides over the governance of the island and the people. Customary and informal institutions at local level are seen as legitimate and relevant to people’s lives. Chiefs continue to be the main authority at community level, especially in law and order. The churches are also active participants in community governance, providing a range of services, particularly for women, youth and the vulnerable. While the chiefs and churches may tend to be socially conservative in nature, they play an important role in governance at the local level. These local structures are quite fluid in nature, adapting in response to changing conditions.

As with many Pacific Islands the population is heavily reliant on coastal fisheries for food and nutritional security and for their livelihoods. Sea cucumbers are a high value resource with strong demand in international markets and in the early 2000’s there was significant over-fishing of the sea cucumbers. Sea cucumbers are detritus feeders, so they consume and remove decomposing plant and animal parts as well as human waste from the oceans. This resulted in Emae’s delicate marine ecosystem being severely impacted with algal blooms resulting in many of the edible fish becoming poisonous.



(Photo Credits: by David Stanley). A view of the East part of Emae as seen from the southeast.

This led to the island Chief, John William Ma Tui'Makatamata, a lawyer by profession, establishing Emae's first marine protected area (MPA) in 2006 within the land and sea under his customary jurisdiction. This MPA allowed for the natural regeneration and recovery of Emae's marine ecosystem and with the assistance of Moses Amos Tinapua who was then Director of the Ministry of Fisheries the reef was restocked with sea cucumbers, green snails, and trochus. Encouragingly there are now eight MPAs surrounding the island. These are supported by the Fisheries Authority, JICAH's Grace of the Sea Project and a passionate Fenua Tai marine life conservation network that is focused on raising awareness on the protection of endangered marine-life. Since 2006 the people of Emae have seen the return of dugongs and turtles to the island to give birth and lay their eggs and increases in other marine life.

The MPAs serve as a marine life sanctuary, protecting inshore fisheries so important to food security and to sustaining offshore fishery's which are economically important. The offshore oceans (beyond the reef) is a popular site for game fishing charters from Vanuatu's capital Port Vila that now need to move further out (4 hours by speed boat) as the fishing grounds surrounding the island of Efate where the capital is located have been overfished.

The Island Council of Chiefs recognised that an essential element of the long-term success of the MPA's will be to ensure the communities benefit by way of an environmental fee or other for keeping their MPAs in place and that other possible threats to the MPA's would need to be identified and managed. It was recognised that agricultural activities have a major impact on reef system health and coastal fisheries, so with the help of the Pacific Organic and Ethical Trade Community (POETCom) the island was declared to be an organic island on 4 July 2016 (<http://www.organicpasifika.com/poetcom/news/ema-e-goes-organic/>), with the islands Farmers Association following the Pacific Organic Standard for all production. The conversion to organic practices was further supported by the resident agricultural field officer, that was provided by the Department of Agriculture at the request of the Farmers Association.

Following the massive destruction by Cyclone Pam in 2015 which destroyed 100% of agricultural crops on the island, The Pacific Community⁴ provided support to national recovery efforts. With Emae an integrated approach was used, making use of the Pacific Community's genetic resources, forestry, land use planning, livestock, pest and disease, organics and extension sections. Furthermore, it worked with the organisations Social Development Programme's (SDP) culture section – listening to the nuances of culture and culturally important crops and trees in order to co-design this intervention. Building on initial organics work done by POETCom, the ten villages on Emae went through a land use planning process and designed a landscape approach to agriculture and forestry. Locally available planting material was sourced and almost 200 families were provided with poultry for eggs and alternative protein, coconuts and yams were replanted, and solar-powered coolers to curb post-harvest losses of fresh vegetables were provided.

Emae now has commercial sales of yams at the Port Vila Market and winning the 2018 National Yam Competition and the 2019 SHEPHERDs Mini Agriculture Show in Emae. They have produced five ton in 2018, ten ton in 2019 and aim to produce 20 tons in 2020. All the yam production areas are confined to the demarcated areas in their Land use plans. Seeing the enthusiasm and good results on Emae, the Department of Agriculture made the decision to station an extension officer on the island in order to sustain the results of the post cyclone intervention. The island has been successful in achieving post-cyclone food security and built back better – moving beyond traditional focus on fishing and marine harvests.

Emae's latest flagship support measure in view of the conservation areas is the establishment of a healthy, sustainable sea cucumber fishery and hatchery using responsible mariculture that is science based with a comprehensive business plan for financing, infrastructure, technology, marketing, branding, sales and staff training. The hatchery will raise on land endemic sea cucumber juveniles up to two

⁴ The Pacific Community (SPC) is the principal scientific and technical organisation in the Pacific region, proudly supporting development since 1947. We are an international development organisation owned and governed by our 26 country and territory members. www.spc.int



months using natural algae feed and will be sea-ranched in the wild within these MPAs to restock and rejuvenate the marine ecosystems. Whilst exporting a sustainable portion to exclusive seafood markets and the pharmaceutical industry overseas, ideally certified under the Pacific Organic Standard and the Organic Pasifika mark, to generate income in support of the people's livelihood in keeping their MPAs intact. An Innovation Grant Facility from the Technical Centre for Agricultural and Rural Cooperation in the Netherlands provided a consultant who completed

the design of the hatchery and who will travel to Vanuatu to train the hatchery manager and technicians once the hatchery has been constructed.

The island was recently part of a Pacific Islands Forum Fisheries Agency initiative on ocean health and governance in collaboration with the Conservation Strategy Fund, Conservation Wildlife Society and the Conservation Finance Alliance under a Pacific Ocean finance Fellowship representing Vanuatu that assisted in streamlining biodiversity in its development initiatives to preserve and enhance the island's precious biodiversity using an ecosystem approach to produce healthier and safer food whilst protecting the environment.

Utilising organic agriculture as a lynch pin for protecting land and sea ecosystems as well as providing livelihoods opportunities reflects the wisdom of the traditional leadership in recognising the interconnectedness of all elements, and positions Emae well for sustainable development and long term prosperity.