



agricultural biodiversity Community



# Making markets work for Agricultural Biodiversity *A Position Paper*

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**Michael Commons, K. Murugesan and M. Karthikeyan**



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# Making markets work for Agricultural biodiversity

## *A Position Paper*

Michael Commons, Murugesan K & Karthikeyan M

When the Agricultural Biodiversity Community (abc) formulated its focal working areas during its second meeting held outside Bangkok, Thailand in 2012, one of the key working areas designated was “Markets and Trade”. Compared to other areas such as “Seeds and Breeds” or “Resilient Communities”, “Markets and Trade” seems quite foreign and distant from agricultural biodiversity. In fact, many would say that entering the market economy has been one of the key reasons for loss of this diversity. According to FAO, since the 1900s, around 75% of crop diversity has been lost. This loss of agricultural biodiversity is caused by a complex array of economic, social and demographic drivers including agricultural and food systems that focus on intensive production of a very limited number of crops.<sup>1</sup> When families grow for their own diets and needs, they traditionally have very diversified farming systems. Even if the now almost storybook view of a European family farmer, well-captured in the famous children’s song, “Old MacDonald” is considered, the family farm of the past was very diverse. Old MacDonald did not have a huge feedlot only of cows; he also had chickens, ducks, sheep, goats, horses, and probably grains, vegetables, and fruit trees. The song is much less fun if you just repeat “Old

MacDonald had some cows” six times in a row. However, it is known that most of what is modern farming as of now is just this. One can fly many kilometers over oil palm plantations in Malaysia or fields of only corn and soy in the American Midwest. These simplified and centralised farming systems have evolved largely based upon market factors. When farmers stop producing to feed their family and their neighbours, but produce for money, there is no need to produce diversity. Farmers may use money earned from crops they do not consume (such as palm oil) to buy all the food they need. With international trade, foods and goods can go anywhere. So, demand for palm oil to be used in biodiesel for European motorcars may provide more income to Malaysian producers than producing food or other goods for themselves and fellow Malaysians. They might be able to import vegetables more cheaply from China and milk from New Zealand than they can produce locally. These reasons were a major force leading to the loss and degradation of our heritage of seeds and breeds adapted to the many different places on this planet, reflecting our diverse cultures and ways of living.

While this is the destructive force of markets, anyone who has had the good fortune to travel to places where traditional cultures still thrive, will have had the chance to visit markets that are a thrill to discover and a joy to behold in the great diversity of produce present. Markets have a very long history with humanity and

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# Green Net Foundation, Thailand; ## DHAN Foundation, India

<sup>1</sup> Rudebjer, P.; Meldrum, G.; Padulosi, S.; Hall, R.; Hermanowicz, E. 2014. Realizing the promise of neglected and underutilized species, Bioversity International Policy Brief. Bio diversity International.

have been places of meeting and exchange since well before written history. A shaded common ground where farmers sit with their best selection of produce and other goods on blankets, mats, in baskets and gourds, or now more often on tables and the people of the village or town come to not only buy food for their families, but share stories and exchange ideas, meet friends and relations, is something that has been experienced in almost every corner of this planet for many centuries. These places of meeting and exchange have and continue to be places where agricultural biodiversity is shared and spread.

Any gardener with a bit of experience will happily save a bit of seed from a particularly tasty tomato, cucumber, melon, or gourd, which then goes into the garden. These gardeners of the world have spread our seed heritage around the world, helping it to adapt, evolve, and diversify. So it can be seen from this picture, this powerful tool of “markets and trade” has been both one of the greatest forces for the spread and broadening of our agricultural biodiversity and then again one of the primary reasons for its loss. Market forces are playing such a dominant role in local, regional, national and international agro-food system.

It was precisely because markets and trade are such a powerful force in the world of today, that the abc grasped this as one of its key working areas. In this era where “Money” rules, to ignore or attempt to fight the market economy head on, seems like a recipe for failure. Many of the abc members were already working to use the market as a force for positive change. These members saw the market, not as the cause of these losses in

itself, but a tool that could be used in many ways. Our challenge and opportunity is to use the market and the very powerful vote and force of “consumers” to support agricultural biodiversity, the custodians of this diversity (small-scale farmer families, herders, fisher folk, and forest peoples) and the methodologies and ways of life that support this diversity (best defined now by the term ‘Agroecology’). With thoughts like these in our background, many of the members with experience on these very points coming from Africa, Asia and the Americas sat down together at the SACDEP grounds in Thika, Kenya, to share our experience and try to map out how markets can and are working to support agricultural biodiversity.

Our goal was generating from the practical experiences a sort of road map of possibilities and paths, looking at challenges and how they could be overcome, and looking at successful cases and identifying what are the key success factors. Such a map of possibilities and stories to accompany could inspire many others and give them clear ideas and approaches on how to move forward.

The following sections share our attempt and they include understanding of the context, specific insights from various practical experiences and synthesis of learning and challenges. A detailed case study of four of the abc members is given in the annexure for reference. It is by no means complete or exhaustive; but is a start that may open up doors and to which many others may add their story, both those who are already succeeding in their own way, and those who are inspired to try and go on to find a way to succeed.

## Understanding of the context

When asking, “How markets may be made to support agricultural biodiversity?”, if one starts from the opposite question, “Why are most of the current market systems not supporting agricultural biodiversity?” it may be helpful to understand the situation better. Some of the answers are:

- **A change in production:** We have changed from small-scale diverse farming systems using ecological methods to producing cash crops (usually as monocrop) often using chemicals to kill the biodiversity in our fields. Traditional farmers in almost all cases do have some surpluses, which they exchange or trade and nowadays sell to the market. It is just that their primary drive is not a “cash crop” but to provide for their families and their cultural needs and situation. Being “self-reliant”, traditional farmers / farming communities have not needed much from outside. They often provide themselves their own food, housing, clothing, tools, and medicinal herbs. Only rather select things needed to be traded in. However, as we know the world has changed rather quickly. With exposure to so much more that is possible to consume, most rapidly through media such as television, radio, and now internet, so has come aspiration to consume. Whether mobile phones, motorcycles, televisions, modern shoes or modern education, these things come with a cost that goes beyond the capacity of the villagers to provide for on their own with their skills to make. Thus, villagers who want to access these new things are by force pulled into the market economy. They must

obtain money to get these things and to obtain money they must sell goods or services that the market will buy. In this situation, traditional farming as it was in the past is no longer in itself a viable option.

- On the market side, we have changed from very local markets where farmers might directly sell their produce in villages and towns, to **increasingly centralised market systems**. Produce now is most often aggregated and sent to a central location and then redistributed. This system works most easily when there are large quantities of a single commodity that can be transported in trucks. It does not work well when farmers have small amounts of a great diversity of products.
- In terms of consumer and modern trade (supermarkets and hypermarkets) expectations, the **focus is on “beautiful” uniformity**. Products should be of similar size, colour, etc. They also need to be of varieties that can withstand transportation from rural farms to central distribution points and then to consumer markets and still look good. This harvest, transport, treatment and handling require produce and products to have a longer shelf life. All of this greatly limits what can be grown and sold. In the worst cases, such as in France, the varieties that can be sold are legally restricted and trading other varieties is illegal.
- **Consumers have become food illiterate.** Many consumers now rarely even cook. They may often eat out, or consume frozen and take away food. When they buy produce and cook, they may only know of a few types of vegetables and fruits, let alone of the



great diversity of varieties that actually exist of mangoes, apples, eggplants, rice, and so much more. For some things such as chicken, most people today probably have no idea what a free range traditional variety chicken tastes like. Chicken is just chicken for them. Most often prepared foods use added sugar, salt, monosodium glutamate, and other flavourings to give taste. The truly rich and subtle flavours of natural healthy produce such as a vine ripened tomato or cucumber are unknown. Traditional seasonal (often wild harvested) vegetables and fruits are unrecognisable to most. The palate of the modern humans is being conditioned for less diverse food groups and their varieties and for more diverse additives.

- **Agro-industry and profitability is normally working strongly against agricultural biodiversity.** Agro-industry, as opposed to small-scale processors, works on a scale and reach, which demands raw materials or commodities with uniformity. If you consider major fast food chains, they need to have consistency in their french fries and chicken, and deal with enormous quantities. A diversity of potato varieties means a challenge to produce a consistent product. If there were a choice to offer chicken from a unique breed with distinctive characteristics, they would have a great challenge to secure a sufficient supply and the raw material cost would also likely increase significantly. The most profit is to be made by using low cost commodities as raw materials and then processing them into branded products that can be sold at a much greater price. This gives a large margin and then there are no limits to the scale at which one can sell.

Quality goods linked to unique ingredients will cost more to produce and one cannot expand production beyond the availability of the raw materials, which are in limited supply. An unfortunate scenario witnessed many times is that a successful local brand and processor, producing good quality products (often linked with local knowledge and ingredients), when it expands to become a national or international brand, modifies its production to be more industrial, often changing its recipe to be based upon common commodities. This same scenario happens quickly when a small enterprise is bought by a multinational brand. At present, transnational corporations are exerting unprecedented level of control on agri-food systems. This promoted uncontrolled expansion of monocultures and standardisation of landscapes. Equally massive standardisation process in consumer side has destroyed local markets through which family farmers marketed their produce<sup>2</sup>.

While the above trends are all working against agricultural biodiversity, we do have a few trends that can be helpful to supporting biodiversity.

- The first would be an **interest amongst consumers for healthy food** with a number of consumers becoming much more active and knowledgeable about what is in their food and where it comes from. With very strong evidence that much of our modern non-communicable disease problems come from what we are eating, many understand

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<sup>2</sup> Paulo Peterson. (2013, July). Building markets: A challenge for family farming. *Alternative markets for Improved Livelihoods*. BaoBab 67, P5

that to ignore what we eat is an invitation to poor health. Health is the first reason most consumers choose to eat organic food. As the organic management requires and benefits from measures to promote increased biodiversity such as crop rotation, integrated cropping, and keeping biodiversity reserves on one's farm, in addition to the prohibition against using chemical fertilisers, herbicides, and pesticides, organic farms should on average be much more biodiverse than non-organic farms. This would be observed in soil flora diversity, farm ecologies (insects, birds, frogs, weeds, etc.) and in the variety of plants cultivated and animals raised. While it is not as well known or disseminated amongst consumers, there are also clear differences in nutrient composition of different varieties of crop and livestock. Wild foods and varieties that are closer to their wild ancestors generally have significantly higher levels of vitamins, nutrients, and antioxidants. (Organic cultivation also markedly increases these levels as well compared to cultivation with urea and other chemical fertilisers.) When one does a nutritional analysis of something that appears uniform such as milk, and compares between high yielding breeds such as Frisian and traditional breeds such as Ugandan Longhorn or the water buffaloes raised in southern Sri Lanka, the protein and fat content is much higher for these traditional breeds with lower productivity. There is other interesting research showing how vitamin content as well as the character and health of the fats within is clearly affected by what the cows and other livestock are eating. So, cows with a diet of feed

(primarily of corn and soy) yield milk with less nutritional value than cows feeding on diverse grasses and weeds.

- Aside from health, there is also an interest and growing **niche market for unique and unusual food/varieties**. This is most visible in elite food circles such as fine restaurants and big city farmers' markets. Even in this limited scope of a select niche, this is valuable. However, this interest and niche can and is expanding in some areas. The rich and culinary elite can lead an interest in lost varieties that were much more widely accepted and consumed earlier. If we look at the case of small millets in India, this appears to be happening. India has an incredible diversity of small millets, which for a long period have been disfavoured crops. Rice and wheat have been seen as the superior staple foods. Small millets cultivation has dropped dramatically. However now in India, within more culinary aware circles, an appreciation of the quality and taste (as well as health value) of these cereals, has led to increase in demand.
- **The Slow Food movement**, is the movement that has most visibly given respect to culinary traditions and local foods, appreciating and recognising distinct varieties that are traditionally grown/raised in a specific area and then often form the basis (raw material) for recipes that have their own character. The Slow Food movement has worked to build relationships between traditional food producers (farmers, fisher folk, herders, etc.), traditional food processors (cooks, bakers, makers of traditional fermented and

preserved foods) and consumers who appreciate the qualities of such food.

- **Geographical Indicators (GI)**, most well-developed in France and Italy, that recognise the unique qualities of local foods and control the use of the name (brand) of such foods, such as Bordeaux wine, Roquefort cheese, Balsamic vinegar of Modena, and many more give legal recognition and protection of this diversity and can also give a market edge. There has been some effort to promote GI in other parts of the world to help preserve traditional varieties and foods and give them a stronger place in the world marketplace.

With the above understanding of the context, the important insights and learning from the case studies of some of the experiences of abc members and few other organisations who have experimented in marketing eco-friendly products by reconnecting consumers and producers either directly through local markets or indirectly through regional or national markets are shared below.

## **Salient features of different initiatives of abc members**

### **Ecological Products of Ethiopia (ECOPIA) Plc. – Case study 1**

Ecological Products of Ethiopia (Ecopia) Plc. is a social for-profit company that produces organic natural and forest food, cosmetic and herbal medicinal products for national and international markets. Its core principle is to work with communities of farmers in rural areas. Ecopia plc. has processing facilities in 14 different part of Ethiopia covering more than

11,000 farmers. Ecopia Plc. has developed more than 57 processed organic food products, 35 cosmetics and 15 herbal medicinal products that reflect Ethiopia's biodiversity. The salient features of the Ecopia intervention are:

- **Producers own or co-own processing facilities:** This organisation has promoted co-ownership of the processing facilities by the producers and/or local youth. Such measures will aid the institution in the long run in securing producers patronage for the business.
- **Producers are trained to process products from the bio-sphere:** Though it takes much time to train the producers, the organisation has invested time and resources to enable the producers to do the complex value addition processes. Such training will lead to active participation of producers in each and every process associated with value addition. It will also help in ensuring high quality produce to the consumers.
- **Organic, environmentally sustainable, and sustainable management of biodiversity:** The organisation has used organic nature of the products as differentiating factor in the market to get competitive advantage for the company. At the same time, such approaches sustain the natural resources over a long period of time. Organic and environmentally sustainable products are creating win-win situation for all the stakeholders.
- **Traceability and certificate of origin:** Traceability and certificate of origin features are used to augment the aspects of organic and environmental sustainability. The organisation has invested resources to add

this important feature which secures the confidence of the consumers. Individual farmers could not be able to do this on their own if they have not come together under this company. Collective strength of large number of small producers is used as a factor to reduce transaction cost in providing vital inputs.

- **Higher price realisation through value addition:** Wide range of value-added products have made possible higher prices for the producers. Without value addition, the produce from the bio reserve would have fetched very less price and would not have motivated the producers to be in this business. Therefore, the organisation has used value addition as tool to keep the producers actively engage in conservation of bio reserves from which all the produce is collected or harvested.
- **Branding:** The organisation has created the brand name “Ecopia” and also invested resources to position it as an environmentally sustainable and organic brand. These investments will pay off in the long run. The brand is like an invisible bridge connecting producers to consumers. Consumers will be hesitating to buy a produce without a brand name as he or she would not have been convinced about the quality of the products. Brand makes each transaction as convenient and less time consuming as possible.
- **Linking different eco-friendly activities together:** Ecopia combined conservation, production of organic food and cosmetic products and ecotourism, thereby meeting the requirements of different stakeholders

and making the markets serve the purpose of conservation and agricultural biodiversity.

## **Kalanjiam Thozhilagam Ltd. (KTL) – Case study 2**

KTL is the business initiative of DHAN Foundation. KTL is a public limited company registered under Companies Act, 1956. The shareholders are the primary producer groups and producer companies. Its main objective is to make interventions in the small businesses undertaken by the poor to increase their income. KTL facilitates backward linkages such as supplying of inputs like fertilisers, seeds, plant protection chemicals and other inputs needed by the farmers and forward linkages such as creating market linkages for the commodities produced by the farmers. It procures, processes and markets small millets and medicinal plants in Southern India. The salient features of KTL’s interventions are:

- **Strengthening the regional value chain of small millets:** Small millets being the neglected and underutilised species, their markets are under developed. Market development is a crucial prerequisite for bringing positive changes in the small millets economy in the long term. KTL intervened in the value chain to strengthen the regional value chain by connecting millers, wholesalers and retailers and by addressing the important constraint of small millet food enterprises pertaining to raw material.
- **Adoption of technologies to improve ease of use and impact to the consumers:** KTL strived to improve the consumer experience. It addressed the issue of poor shelf life of small millet food products by adopting suitable packaging technology. This

considerably helped in ease of use of small millet products for the consumers. KTL also reduced the level of polishing of the small millet rice by retaining the part of bran to improve its nutritive value to the consumers.

- **Profit sharing with producers (Patronage bonus):** KTL has provided patronage bonus on the basis of quantity of grains procured from each farmer. Sharing profits with producers based on transaction with each producer is vital in the long run as such surplus income over and above market price paid at the time of procurement will motivate them to continue the cultivation of millets.
- **Reaching the common man with small millet:** Small millets are promoted as elite foods by many agencies. KTL adopted innovative ways to reach the common man by bringing down the consumer price by 30% to 42%, by engaging with women SHG federations and by bringing the small millet products to the doorstep of consumers.

### Green Net SE, Thailand – Case study 3

Green Net SE is a social enterprise whose missions include expanding organic farming and fair trade, promoting sustainable community development, and encouraging forest conservation. While its focus was to prevent chemical contamination of agricultural areas, they found it difficult to stop deforestation caused by agricultural land expansion. It wanted to find ways for people and forest to live together and support each other sustainably. Coffee, a major commodity crop, came into the picture. Their Organic Coffee for Sustainable Forest Conservation Project focuses on preventing deforestation and revitalising

forests though promoting integrated organic coffee in forest buffer areas. The salient features of Green Net SE's organic coffee initiative are:

- **Inclusive approach in community-driven coffee production and forest restoration: Green Net SE – Branding** - MiVana has chosen the crop of coffee to avoid/reverse deforestation and at the same time to improve the livelihoods of the farmers as this crop is well-adapted to forest conditions and can bring high economic value. This approach is socially, economically and environmentally sustainable.
- **Following the approach of piloting before large-scale implementation** – The initiative started as a small-scale pilot; later it was expanded based on the learning and positive experience.
- **Organic and fair trade:** Organic and fair trade practices are used and promoted as differentiating factors and as a source of competitive advantage (first through a Participatory Guarantee System and later obtaining Certification in line with growth and market demand).
- **Branding and segmentation (different brands for different markets):** MiVana has created different brands for different consumers in different markets. Market segmentation helps the company in catering to needs of different consumers with same primary produce and gaining more value for the whole crop.

## Inhere Ajivika Utthan Samiti (IAUS) – Case study 4

The Inhere Ajivika Utthan Samiti (IAUS) established in 2005 is a community business group in the central Himalayan mountains in the north of India, which has been adding value to surpluses of smallholder farmers and taking the produce to markets in the local area and across India under the brand name Himalayan Fresh. It deals with organic pulses, cereals, fruits, vegetables, herbs and medicinal plants. IAUS procures wide range of organic and natural produce (68 in number) from smallholder farmers in the Himalayan mountain villages of Uttarakhand state. The salient features of IAUS's initiative are:

- **Adapted different values from traditional business values such as economies of scale, and specialisation:** IAUS has braved the risk of marketing what farmers produce. This goes against the traditional theory of marketing, which states that a business organisation should produce what is demanded by the consumers. The organisation has invested resources in finding out appropriate markets and consumers so that value is created for a wide range of small-scale agro produces that would have fetched little value in the local market.
- **Organic certification for farmers' group:** The organisation obtained certification for a group of farmers instead of individual farmer which made possible organic certification for small holder farmers. Individual farmers would not have obtained the certificate on their own as the cost would be prohibitive and the procedures too cumbersome.
- **Branding and wide range of products:** Wide range of value-added organic products have helped the producers in getting premium prices for their small marketable surpluses.

## Learning from other experiences

### i. Developing markets for traditional rice varieties in India

Sahaja Samrudha based in Bangalore, India, started saving traditional rice varieties in 2006 and by 2008 they had conserved more than 800 varieties. Sahaja Organics (associated with Sahaja Samrudha) is selling a great diversity of traditional rice, millet, and pulse varieties that have been organically grown. While the number of varieties of rice sold is still much less than



**Figure 1: Traditional rice mela organised by Sahaja Samrudha (Photo: Michael Commons)**

the number of varieties of rice conserved by farmer members of their network, they were able to develop consumer demand for quite a number of varieties of rice by identifying varieties with distinctive attractive, flavourful, and healthful qualities often known in Ayurvedic literature. Most of the traditional rice varieties are rich in dietary fibre, considerably higher than regular rice varieties. This information was shared and promoted with consumers and media at "Organic Melas" (fairs to share and promote organic products). Sahaja Organics realised

that putting a pullout in newsprint is not enough. They found that reaching adults through their children worked well. They developed a glossy brochure and gave to lower primary school children to take to parents (the targeted consumers). For the media, they developed elaborate information on Indian rice recipes targeting different reporters and media houses. Cooking competitions were also included as a component, with cooks making delicious and attractive recipes from traditional crops. As a result, many consumers have come to know and appreciate these less known varieties and they now have a steady market for their varieties. This served as an economic incentive for conservation of these varieties by the farmers. While Sahaja Organics is successful and growing, it is still clear that managing this diversity of varieties is more difficult than managing one variety. They had to develop a system that would support this, and continue to develop tools to facilitate handling a high diversity of products.

## ii. Exclusive market arrangements (Green market, Good market and Earth market initiatives)

“Green Markets” in Bangkok are markets where farmers and small processors sell directly to consumers. To sell in this market, the farmers and processors must meet organic and natural standards. When Green Market was started, most consumers were not interested in their local traditional vegetables. They did not know these vegetables or how to cook and eat them. The organisers realised that they needed to educate their consumers. Apart from just

providing information to their customers, they made it a regular practice to prepare dishes from different vegetables and let their consumers try them. This worked very well. Soon the demand for traditional vegetables increased. Consumers started to buy the unusual local vegetables with their unique flavours (and otherwise unavailable) and show less interest in common vegetables such as cabbage and Chinese kale. The organisers continued to innovate and developed a Consumer Supported Agriculture (CSA) scheme. With this, consumers could prepay to receive boxes of organic produce every week. Relevant information on recipes was included with each week of vegetables sent. The information on recipes worked as an additional tool to teach consumers more ways to cook and prepare traditional vegetables.

The Good Market in Sri Lanka has organic, natural, and fair trade standards and gives higher recognition and placement to those who meet higher standards. For fresh produce, ‘*organic*’ is a minimum standard. For foods and processed products, ‘*natural*’ is a minimum standard. For handicraft, the products should be made following fair trade principles. Both systems accept 3rd party certification but also have their own Participatory Guarantee Systems (PGS). The Good Market gives the highest recognition to those who practice Analogue Forestry or Forest Gardening – diversity-oriented farming practices that have high productivity from a forest-like environment. As both markets are now quite successful, while costs for vendors are low, this is an attraction and incentive for farmers and processors to engage in more ecological

practices that would facilitate agricultural biodiversity indirectly, if not directly. The markets have also become platforms for exchange of knowledge and seeds, thus working in another way to indirectly support diversity.

**Slow Food, Kenya** has been implementing the earth markets concept, which involves creating convenient markets based on slow food guidelines. They focus on small-scale farmers and artisan producers who must bring high quality products. They must appear in person and must be willing to talk about the products they produce and how the prices are justified. The concept is to encourage local people to market their locally produced products. These markets have wide range of crops and animal products, which must meet quality criteria reflecting slow food principles (fresh, seasonal, healthy and tasty). These products are organic with fair pricing. The consumers are seen as co-producers and exploitative middlemen in the value chain are eliminated.

### iii. Large-scale buyers influencing production methods

**Case of Sampran Riverside Resort:** This is an organic resort located about an hour's drive outside Bangkok. To get their supply of organic foods, they have trained farmers in the local area in organic agriculture and developed a PGS (participatory guarantee system) and started procuring directly from them at a price, which is a win-win for both the resort and the farmers. The training helped in ensuring that the producers were following organic practices, and thus they were provided market access. Once this was developed, the farmers also had other organically grown surplus produce. Sampran

then allowed these farmers to sell their produce at the resort on weekends and



**Figure 2: Sujkai Market at Sampran Riverside Resort (Photo: Sampran Riverside)**

developed a market called “*Sukjai Market.*” This market has become a draw for many tourists and visitors to the resort as well as other community members who now have access to organic produce and foods at a good price. While biodiversity was not the key point, visiting the market, one can see that a very high diversity of produce is being offered. This seems to evolve naturally when farmers are practising organic management and selling directly to local consumers, as they do not need quantity but diversity and they can explain about what they have and how to eat it.

**Case of Chiang Rai (Public) Hospital:** The hospital manager realised that to promote health and healing, they must offer healthy food. Chiang Rai being a rural province in the North of Thailand surrounded by farmers, she made the effort to develop relationships and offer market access if the farmers were open to practising organic agriculture. While this was not a quick and easy process, she succeeded in involving farmers in organic production. As one of the biggest buyers in Chiang Rai, she also used her buying power to demand from processors that wanted to sell to her that their sauces and condiments would be free from MSG and preservatives and were naturally fermented. With a group



of organic producers and the interest from hospital staff, visitors, and recovered patients to continue eating healthy food, she provided space in the hospital for the producers to sell their organic produce. This has greatly improved the economic situation for the small-scale farmers involved while making organic food accessible and inexpensive. As with organic agriculture, it is easy to grow seasonal vegetables, the cafeteria kitchen needed to adjust menus to use many different local vegetables. However, they succeeded and their dishes now with more distinct local flavour are much appreciated by patients and the staff. So here again, we see that natural agricultural biodiversity can return to become a much appreciated asset if there is the will and process to put them in the menus.

#### **iv. Cases of biodiversity enriching livelihoods in Thailand**

In a different sphere, handicrafts can act as a support for agricultural biodiversity. In Thailand there are a few groups of weavers that specialise in natural dyes such as Praepun, Panmai, and Sawang Boran, located in Northeast Thailand that has a long and rich tradition of weaving and dyeing. They work on amazing and beautiful variety and depth of colours. While historically, most dyes were harvested from the forest, these groups, having a strong sustainability consciousness and with very limited forest resources, have grown dye plants in their own communities as well. As there is such a rich diversity of plants that yield wonderful dye colours, weavers like these will increase their community biodiversity by their

interest to cultivate plants they like to use such as ebony, indigo, jackfruit, butterfly pea flower, mangosteen and lac. Sawang Boran has also chosen to continue to raise and thus conserve the local variety of silkworm that has been passed down in their community for generations, while some institutions are promoting hybrid silkworms with higher productivity. According to traditional wisdom and experience of some colleagues, a naturally dyed natural (organic) silk or cotton garment is not just beautiful but actually has what we could call medicinal and protective properties for the wearer. Ebony for example, which can yield a natural rich black, is a strong medicine that can kill parasites. An ebony dyed shirt is believed to protect against some virus and bacteria. These weavers and the consumers, who buy their cloth and garments, are supporting the vast biodiversity of dye plants. However, in all these cases, we find the high cost of the end product when compared to commonly available cotton garment as a strong challenge. While the cost of an industrial synthetic or GMO cotton garment in Thailand may be 100-200 THB, that of a naturally dyed, handspun, hand-woven silk shirt has to be at least 2000 THB, given the time and skill involved. This is just figuring for basic Thai wages. However, most consumers do not see this value. Bamboo and rattan, used for handicraft, furniture, and structures also link with a great diversity. Different varieties of bamboo are good for different purposes such as bags, baskets, sofas and homes. There are also diverse traditional materials for making mats and roofing. While it is possible to over-harvest these resources,

now we face a much stronger problem of deforestation to convert forests to commodity crop monocultures such as oil palm and rubber. Bamboos, reeds, palm fronds and rattans naturally exist in forests and forest type environments. With conscious practices, they can all be sustainably harvested continually.

As with natural dyes, herbal medicine links with a great variety of plant resources. Traditionally, most herbs were wild-harvested from forest areas, while today these resources are limited, and thus where there is demand, herbs are being cultivated. Ban Dong Bang is a village in Prachinburi, Thailand. About 20 years ago, they started working with the Chaophya Abhaipubejr Hospital to produce herbs for them. This public hospital has perhaps the most developed traditional medicine department in Thailand. Aside from offering many traditional medicine services, they produce many herbal remedies and cosmetics using herbs. The hospital has skilled staff that does vigorous quality testing. They learned long ago by testing that herbs grown organically had a much better potency than herbs grown with chemical fertilisers. They worked with Ban Dong Bang village to develop best practices for harvesting and initial processing. Earth Net Foundation taught the basics of organic farm management and organic standards. Now this village is a village of experts, earning a very high return for producing excellent quality herbs. Many visitors at first are a bit shocked to look at their fields, for they do not look like fields, but like overgrown forests. Herbs being adapted to grow in forest environments and

with different herbal plants being of different forms such as tubers, herbs, vines, and trees, the system they have grown into is a herbal forest system. This system largely self-manages while producing many yields. It has a very high agro-biodiversity as well as being an ideal habitat for much wildlife such as bird, bees, snakes, and so forth. The Wanakaset Network, Thailand, applies the same type of forest-like growing system, integrating herbs and perennial vegetables.

### **Learning from the case studies and other experiences**

#### **How can the market help to promote agricultural diversity?**

The case studies and other experiences shared above indicate that market demand can both directly and indirectly support agricultural biodiversity. In the direct case, it is consumers and preparers of food who create demand for agricultural biodiversity. This could most easily be seen in a farmers' market when farmers and consumers meet directly together. If consumers appreciate and value unique types and varieties of produce and farmers have an ability to produce such variety, then the market evolves to have increasing diversity and work to support diversity in farms and gardens.

In the indirect case, the market supports methods of production that have greater agricultural biodiversity. This diversity however may just be consumed locally, even just by the family who grows it. As the most important custodians of agricultural biodiversity are small-scale farmers, fisher folk, herders, and forest people, how these people manage their farms, livestock, fishing grounds, and forests is of immense consequence. What good or service

they choose to sell or trade can link to their whole ecosystem. As mentioned above, organic produce would clearly have indirect impact, and there are other certification systems that also have biodiversity components. Forest or shade

1. While there is scope for serving local, regional and international markets, production and conservation has to be embedded in the local crop/forest production systems.
2. Producers' centric approach is required for participation of small holders/producers for practical reasons such as aggregation and ideological reasons. Producers' intensive involvement is needed either by owning or actively participating in all things related to engagement with market, at the same time protecting, conserving and restoring biodiversity. Producers need to be enabled to do complex business production and processing methods. Engagement with market is to be done by collectives of producers, as an individual producer may not be able to compete with market forces. Sharing of profits with producers through patronage bonus is a good incentive to them to continue production.
3. Banking on existing consumer demand and/or creating demand through consumer education and awareness is the key. Events such as 'Melas' help in reaching the consumers.
4. Practices such as differentiating the products through organic and fair trade certification, traceability/certificate of origin and brand building help in accessing niche and premium markets and realising better prices by the producers.
5. Structuring the market space in a way conducive to eco-friendly products works and large-scale buyers can make a

grown coffee, is a clear case in which the buyer purchasing coffee supports a more diverse ecosystem than a monocrop of coffee.

Besides these broad inferences, the specific insights are as follows.

- difference in the production methods in the local province.
6. Innovations related to creating consumer value for unique varieties/crops/rare commodities and services, interfacing of producers and consumers and for linking markets with methods of production that lead to greater agricultural biodiversity are part of the key elements of success. More innovations are needed to serve mass markets.
7. Engagement of professionals with business acumen and social values is one of the key factors of success.
8. Working for strengthening crop / product / commodity eco-system or value chain was found to be important for scaling up the use of neglected and underutilised species in the long run.
9. Deploying appropriate technologies helps.
10. It takes time for the initiative to move through different phases of enterprise development such as formation, standardisation and scaling-up; customised support can be useful in this growth.
11. Promoting through social media is an emerging opportunity.

The major challenges observed were:

- Shifting from elite market to mass market.
- Higher cost of production
- Difficulties in scaling-up of the reach
- Difficulties in dealing with diverse products of low volume
- Government regulation

## Promoting Green Economies in Biosphere Reserves through Certification, Labelling and Branding Schemes – The experience of ECOPIA

Dr. Mitslal Kifleyesus-Matschie

About 80% of people in Ethiopia derive their income from agriculture biodiversity; however, farmers in the country are entirely dependent on prices set at local markets; have little awareness of how to add value to their produce and natural resources; and have limited access to the funding, training and equipment required for them to take a more business-oriented approach. Ecopia was established to tackle these problems head on, by giving farmers access to the knowledge and tools necessary to add value to their environmentally sustainable natural products, and provide them with improved, technology-enabled access to markets.

Ecological Products of Ethiopia (Ecopia) Plc. is a social for-profit company that produces organic natural and forest food, cosmetic and herbal medicinal products for national and international market. Ecopia's products are produced, and processed with the communities. Ecopia saw a developmental gap that needed to be filled, and after ten years of working closely with rural communities in different areas of Ethiopia, developing processing systems and products with international quality standards, Ecopia found that applying a value-added market-based approach was the key to helping rural families in Ethiopia, especially women, to prosper. Ecopia plc. has processing facilities in 14 different parts of Ethiopia covering more than 11,000 farmers. Some of the processing

facilities are co-owned with the communities or with youth from the communities. It has developed more than 57 processed food products, 35 cosmetics and 15 herbal medicinal plants reflecting the Ethiopian biodiversity. Ecopia as a brand stands for high quality diverse



Figure 3: Processing in progress (Photo: Ecopia)

organic, natural, environmental, biodiversity, ecological products and services produced in the community. The salient features of Ecopia products are as follows.

- Ecopia products can be traced using their traceability code.
- Products with certificate of origin highlighting the biodiversity: for instance, mango of Lant, mango of Associa, etc.
- Production based on sustainable management of biodiversity in the hotspot
- Effective implementation of Convention of Biodiversity treaty: all Ecopia products indicate Access and Benefit sharing marks

such as Taste of Yayu biosphere reserve, Taste of Sheka biosphere reserve, Taste of Tigray, etc.

Ecopia's organic products rely heavily on innovation in technology, transportation, management and logistics. In addition, they focus on being leaders in marketing and communications and invest in effective government relationship management. The company's business is built on a co-creation model for the company's products, which are efficiently managed using mobile networking and e-commerce to streamline supply chains.

Ecopia is working on-the-ground daily with Ethiopian farmers to improve their knowledge and understanding of new processes and technologies. It provides extensive training to the farming communities they work with, emphasising much on the quality of the products. It has developed manuals and documents that supports the farmers in improving the quality of the products, such as when is the best time of the day to pick fruits to get the maximum amount of sugar in the fruit, how to best preserve and package them, etc.

"The farmers understand very fast, because for them having sweeter fruit means buying less



**Figure 4: Training on product preparation (Photo: Ecopia)**

sugar to add and hence saving money. By the end of the process, they are happy and the customers are happy too with a better tasting jam free of chemicals," says Dr. Mitslal Kifelyesus-Matschie, founder and manager of the company. In the view of Dr. Mitslal Kifelyesus-Matschie, a social entrepreneur, the time invested in training is paying off in terms of the quality of the products, improved livelihoods and maintenance of the biodiversity of the country. Up to now, Ecopia has trained about 5000 farmers and extension workers all over the country. However, more of this work needs to be done to transform farmers into successful entrepreneurs. From the beginning, gender inclusivity is considered as an integral part of building an environmentally sustainable organisation that promotes agro-biodiversity.

### **Impact of Ecopia work**

Ecopia research has demonstrated that the certification and validation of the certifications by government authorities enables the communities and the company to realise increase in revenue (about 15% to 30% margin of profit for food products and 60% to 100% for cosmetics). At the same time, the Ethiopian government's annual revenue from the products and services has increased by 100%. For herbal medicinal plants, the margin of profit heavily depends on certification of origin on price and quality. Therefore, Ecopia biosphere products in the near future will provide the three certificates as well as a verification means to the validation of the certifications and integrating the existing trace, track and pay me system online.

### **Moving forward**

Ecopia has started taking the current initiatives to the next stage by integrating biodiversity with ecotourism. It has now developed good-quality accommodation in rural areas to make sure local communities can also benefit from

the on-going development in tourism from agro-biodiversity.

With proven rural food production systems and international safety standards in place, Ecopia wished to explore the potential for manufacturing herbal medicine and natural cosmetic products from Ethiopian agro-biodiversity, as that has a greater profit margin than processed food products and often a longer shelf life. Manufacturing herbal medicine and natural cosmetic products would open up the exciting and viable prospect of entering the US\$115 billion market through traditional and e-commerce sales. There is also great potential to develop a domestic market within Ethiopia. Developing natural medicine and cosmetic products for national and international markets will support the Climate Resilient Green Economy (CRGE) strategy of Ethiopia by providing:

- Economic livelihood improvement for subsistence farmers
- Biodiversity conservation
- Resilience to climate change through green technology and environmentally sustainable practices

Currently, Ethiopia cannot enter the lucrative Herbal Medicine and Natural Cosmetics market since the country has no legislation to monitor production of these natural products and

thereby cannot meet international certification and regulatory standards. In the absence of a formal market and production procedures, this sector remains limited to the informal market where unqualified products with misleading consumer information has the potential to be a danger to human health. Unregulated and unsustainable harvesting for this informal market also has the potential to cause major environmental degradation.

Ecopia Plc. is now working with the Government of Ethiopia Ministries and Agencies to identify the necessary regulatory institutions to enable Ethiopia and in the near future other African countries to enter the global herbal product market from Ethiopian agro-biodiversity and forest resources. It has developed manuals dealing with access and benefit sharing (ABS) under the convention of biodiversity in order to facilitate Ecopia and its farmers to benefit from the international market of biodiversity. It is the aim of Ecopia to meet 1% of the global herbal product market from its agro-biodiversity and gain annual earnings of US\$ 172 million (calculation based on total processor income at 15% of a global herbal product market value of US\$ 115 billion).

## Intervening in the Small Millet Value Chain to Improve Nutritional Security – The experience of Kalanjiam Thozhilagam Limited

Dhanabalan. T<sup>1</sup>, Chandrasekaran. G<sup>2</sup>, and Karthikeyan. M<sup>3</sup>

**S**mall millets have been cultivated in India for around 3000 years, making them an integral part of the **culture and history** of India. References to small millets can be found in mythology, poetry, religious practices, and ayurvedic recipes and in numerous dishes. Small millets are still intricately interwoven in the socio-cultural fabric of numerous regions. Small millets are **drought resistant** and require **few external inputs**. They can be grown under varied conditions such as arid and semi-arid environments requiring less water than many other cereals and are often able to cope with poor soils. For this, they are sometimes called '**miracle grains**' or '**crops of the future**'. Millets are highly **nutritious** as they contain high amounts of proteins, fibre, vitamins such as B-complex, vitamins including niacin, thiamine and riboflavin and vitamin E and the essential sulphur-containing amino acid methionine & lecithin. They are rich in minerals such as iron, magnesium, calcium and potassium. Small millets have more dietary fibre with less glycemic index when compared to rice and wheat. It helps to effectively manage life style diseases such as obesity, diabetes, hypertension, stroke, anaemia and some kinds of cancer. In spite of these advantages, the production and consumption of small millets have declined

drastically over the years. There are many reasons for the decline including inadequate research, support for mainstream cereals in the public food programme, processing difficulties, inadequate awareness on the health benefits and inadequate access to appealing food products. Even the available quantity of small millets produced in Tamil Nadu has not been consumed fully within the state and sent to other states. The small millets economy is underdeveloped and there are many information gaps.

In this context, Kalanjiam Thozhilagam Limited (KTL), a business initiative of DHAN Foundation, has taken the initiative to intervene in the value chain of small millets to improve nutrition security. KTL is a Public Limited Company registered under Companies Act, 1956. The shareholders are the primary producer groups and producer companies. Its main objective is to make interventions in the small businesses undertaken by the poor to increase their income. KTL facilitates backward linkages such as supplying of inputs like fertilisers, seeds, plant protection chemicals and other inputs needed by farmers and forward linkages such as creating market linkages for the commodities produced by the farmers.

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## Shortening of market chain for small millets

To understand the market chain of small millets and to identify the intervention areas, an investigative study on the market chain of small millets in Tamil Nadu was undertaken by KTL. Three important small millets cultivated in Tamil Nadu, viz., little millet (*Panicum sumatrance*), Kodo millet (*Paspalum scrobiculatum*) and barnyard millet (*Echinochloa colona*) were taken up for the study. The study has revealed that the number of chain actors vary from eight to ten starting from the producer to the final consumer. The grains of barnyard and kodo millets are marketed immediately after harvest to the local small traders for want of storage space, to repay the loan obtained for cultivation, cumbersome traditional methods of processing and lack of facilities to process them in the village itself. Hence, the price realised by the producer is very less. Mostly, the small millets are semi-processed in Tamil Nadu and sent to Nasik, Maharashtra. The large-scale mills in Nashik do further processing and market in their own brand name all over India. The price spread is more with the processors, as it involves high transportation cost, high investment on infrastructure and high inventory carrying cost. Consequently, the price of polished grains is more compared to paddy rice and wheat, making them less affordable to large number of consumers. KTL has attempted shortening the value chain to address this issue.

Based on in-depth analysis of small millets market chain, KTL developed a business plan

linking producers, entrepreneurs and consumers at the regional level in India and operationalised the same in two steps. It started with the marketing end. It worked with the local millers for diverting a part of the semi-processed produce conventionally sent to Nasik, Maharashtra, to full processing for



Figure 5: Branding of small millet products (Photo: KTL)

sale within the region. It has built up a network of wholesalers and retailers to market the end products namely small millet rice and grits to consumers. The consumers are benefitted by paying 30% to 60% lower prices than prevailing market prices in the region. These efforts helped in establishing a market chain and demand generation due to affordable prices. Moving one step further, KTL started supplying small millet rice and grits to cookies manufacturers, snack producers, restaurants and food caterers. The main problems faced by these business enterprises are: (1) inadequate availability of processed small millets (mainly rice) throughout the year due to seasonal production, (2) poor quality of raw material and (3) high prices of raw materials. KTL's business-to-business efforts addressed these issues to an extent, thereby aiding in strengthening of small millet value chain actors. KTL shifted from more polished small



millet rice to healthier less polished one, based on the demand from its consumers.

One of the important problems of marketing small millet rice is its low shelf life. So the available time between processing and consumption is limited. KTL experimented different packaging options and identified a suitable option that considerably improved



**Figure 6: Nitrogen infused packing of small millets**  
(Photo: KTL)

the shelf life. It also developed its own brand to market its products in the name of 'Dhanadhanya'. KTL supported few women entrepreneurs running micro enterprises preparing value-added small millet products by marketing their products on a regular basis. To generate demand, KTL took many efforts to popularise small millets such as food festivals in apartments and mobile shops involving sales of small millet products at regular intervals in different parts of Madurai city. Small millets are generally promoted as an elite food. However, KTL worked with self-help group women federations in Salem to reach poor families. Through this initiative, it was able to market its products to about 15000 poor families along with awareness on the health benefits of small millets.

Once the marketing channel was established, KTL took further efforts for connecting the farmers to that marketing channel. It started sourcing raw material from the farmers and processed the same by hiring the milling service. To showcase the benefits realised by shortening of market chain, KTL procured about 17 tonnes of barnyard millet

(*Echinochloa colona*) from Peraiyur location and 8 tonnes of kodo millet (*Paspalum scrobiculatum*) from Tirumangalam location in 2013. The farmers were paid the market rate immediately at their farm gate before lifting the stocks. The stocks were dried and stored in the godown. The grains were processed after six months and marketed directly to the end users. **These involved only four actors, viz., Producer, KTL, Processor and Consumers, thus reducing three to five actors in the normal chain.** This resulted in an additional profit of Rs. 1, 49,190/- from barnyard millet and Rs. 53,676 from kodo millet. From the additional profit earned, **50% of the profit amount was shared** with the farmers who supplied raw grains, in the form of '**Withheld Price**'. The product was sold to the consumers directly @ Rs. 58/kg of kodo Millet, while the open market rate was Rs. 70 / kg. Similarly, the polished rice of barnyard millet was sold @ Rs. 60 while the prevailing market rate was Rs. 75/ kg. Both the farmers and the consumers could realise the benefits from this initiative. This would be replicated by organising the farmers into producer groups and federating them into a producer company. Since 2014, KTL has taken efforts to organise small millet farmers in three locations into Farmers Producer Organisations to ensure better price realisation by them.

The key impacts are as follows:

1. Reaching 30,000 consumers in ten districts with small millets at a reduced price in the range of 30% to 42 % when compared to other sources.
2. Supply of quality raw material to seven food enterprises to address the supply chain constraint

More details can be seen in the following tables:

**Table 1**

Sl. No.	Particulars	Bulk products	Value added products
1	Number of products marketed	Rice	Sevai, Flour Mix, Multigrain Mix, Snacks like Laddu, Murukku, Athirasam, etc.
2	Annual sales of small millet products	2014-15: 68.50 MT 2015-16: 52.50 MT	2015-16: Cookies- 4050 boxes
3	Value of annual sales	2014-15: Rs.3.750 million 2015-16: Rs. 2.961 million	Rs. 0.12 million

**Table 2**

Sl. No.	Particulars	Numbers
1	Consumers reached per annum	30000
2	Working with	
	a) Retailers	Nine
	b) Wholesalers	Three
	c) Millers	Three
	d) Cookies	Two

	manufacturers	
e)	Snacks producers	Five
f)	Restaurants and food caterers	Five
g)	NGOs	Two
h)	Micro food enterprises	Four
3	Consumer spread in term of districts	Ten

### Major challenges

1. Seasonal availability of grains and considerable increase in price during the off-season
2. Consumer perception that the cost of the end products (rice) is costlier than staple food items such as rice and wheat, which hinders consumption by the wider population

### Way Forward

1. Scaling-up of the reach in terms of volume and geography
2. Strengthening three Farmers Producer Companies to increase production and undertake collective marketing so as to realise a better farm gate price by the member farmers.
3. Developing and marketing of value-added products to increase the price realisation of the products.

## Organic Coffee for Sustainable Forest Conservation Project

By Theerasit Saensuk, Green Net SE

Forests in Thailand are endangered. In 1961, just a little over 50 years ago, Thailand had over 27 million hectares of forest area, but 5 years ago, in 2010, only 11.6 million hectares of forest area were remaining and deforestation still continues today.

Deforestation in Thailand is mainly caused by local farmers who live in or next to forest areas. Often they clear out trees along the edges of forests in need of more space or fertile land for crops. Influenced by the modern economy, monoculture as an agricultural system and the extensive use of chemical agents, have been widely adopted throughout the country. On the other hand, forest clearing for cultivation not only causes deforestation, but also leads to species migration, species extinction, floods, droughts, soil erosion, and environmental pollution. There have been extensive efforts to resolve deforestation for a long time, but often the efforts have ended in violence or failure due to the fact that we should not simply expel local farmers out of their long inhabited land.

Earth Net Foundation is an NGO whose missions include expanding organic farming and fair trade, promoting sustainable community development, and encouraging forest conservation. In the past, most of time we were working to prevent chemical contamination of agricultural areas, but we were unable to stop deforestation caused by agricultural land expansion.

Earth Net Foundation has been trying to find new ways to solve the issue. We wanted to

find ways for people and forest to live together and support each other sustainably. Coffee, a major commodity crop, came into the picture. Coffee grown naturally under the shade of the forest can yield beans of excellent taste and aroma. Coffee could become a quality product from the community, a profitable commodity for the farmers that also allows them to live in peace and balance with nature. In a way, coffee could really help us protect forests.

The Organic Coffee for Sustainable Forest Conservation Project was then initiated under Earth Net Foundation. The project focuses on preventing deforestation and revitalising forests through promoting integrated organic agriculture in forest buffer areas. Sustaining ecological balance while providing good livelihood for small-scale farmers, the project proves that growing coffee organically in the forest environment is one of the best ways for local farmers to stop burning and clearing the trees, which causes both long-term local and global environmental problems. In another words, forest-grown organic coffee can provide a good livelihood while conserving the community's environmental health.

The project strategy was to start by creating an example of success. We carefully selected one village with all of the key success factors; strong-willed leaders, wide community participation, and a good farming location for growing quality coffee. It started on July 20, 2010 with the Mae Lao watershed community, working with Ban Khun Lao Village, Wiang Pa Pao District, Chiang Rai

Province, Northern of Thailand. Earth Net Foundation helped a strong group of farmers from the village, teaching good coffee production techniques, quality processing, organic and Fair Trade standards, certification, and good community enterprise management practices. This has helped the villagers, not only to return to a self-reliant way of life, but also to improve their quality of life, and most importantly revitalise their forests.

From this flagship village with only a small number of members, by December 2015, the project is working with 324 farmer families, from 9 villages in three different areas of northern Thailand, with a total project area of 1,120 hectares. The value of the implemented forest restoration of the project (1,120 hectares) is estimated at US\$30 million per year. Farmer members and the local farmers groups earn a higher minimum income from selling and processing the organic forest coffee for the project, an increase of approximately US\$ 6 million over 10 years. Earth Net Foundation established a new social enterprise named Green Net SE Co., Ltd. to develop the project as a social enterprise including marketing the coffee and sales. The coffee from the project has already received 2 best quality awards: - “Best Quality Grade Award” – Thailand Coffee, Tea and Drink in 2013 and 2014. Green Net SE received “Social Enterprise Business Planning Award 2012” from TSEO (Thai Social Enterprise Office).

With the key strategy of “Product excellence,” the enterprise charged a higher price. The profit was shared with the community for strengthening their livelihoods and for forest conservation. The products were marketed under the brand name “MiVana” that means “have forest”. Efforts were taken to communicate the “MiVana story” to build the corporate and brand image over several media and internet. However, as can be expected, not all of the coffee yielded is of

supreme quality. To manage the lower quality coffee produced, the enterprise developed different brands that fit the needs of different market segments. The sales from these segments may not make a profit but still reach a breakeven point. With these efforts, MiVana has become one of the biggest organic coffee producers in Thailand.



**Figure 7: Forest coffee products**  
(Photo: Earthnet Foundation)



**Figure 8: Harvesting of forest coffee in progress**  
(Photo: Earthnet Foundation)

In terms of the local biodiversity regeneration, the project is clearly having an impact. Aside from the high level of diversity of plants in the organic forest coffee system, the farmer members have seen a return and increase in wildlife. There has been an increase of jungle fowl, wild boars, and most significantly a return of Marble Goby to their creeks. These fish had completely disappeared and now again are at a healthy population. As one of the favoured fish for eating, this is a real

restoration of natural wealth and indicator of the health of the watershed.

### **Key Success Factors**

1. Rather than fighting or expelling the local community to stop forest degradation, the project found a way to work with the community, improving their livelihoods and restoring the forest.
2. Started with a location with many favourable factors for success. Then, expanded from the success of this community to other villages.
3. Developing a full supply chain with quality (organic, fair trade, forest grown, best production, harvest, post-harvest practices) integrated in every step, from seedlings to cupping, yielding a top quality high value product that is able to return benefit to the farmers and communities involved.
4. While the top quality product earns the most, different market segments and brands have been developed to return value for all products.
5. One key high value product, in this case organic forest coffee, has changed the livelihood conditions and production system. Both the forest and its diversity and the self-reliant backyard cropping for home use and this diversity are supported by this shift.

## Inhere Aajivika Utthan Samiti (IAUS), A Community Business in the Central Himalayan Region of Uttarakhand, India

Sonali Bisht<sup>6</sup>

The Inhere Aajivika Utthan Samiti (IAUS) established in 2005 is a community business group in the central Himalayan Mountains in the north of India, which has been adding value to surpluses of smallholder farmers and taking the produce to markets in the local area and across India under the brand name '*Himalayan Fresh*'. The objectives are sustainable local employment and income, conservation of the local crop gene pool and, community food and nutrition security through conservation of agro biodiversity. The Himalayan mountains are very rich in natural and cultivated agriculture diversity due to the variations in micro climates in a small area caused by differences in altitude, direction of slope, degree of slope, water retention and nature of soil.

The challenge in utilising biodiversity for markets comes from small surpluses of



Figure 9: Processing of chilies in IAUS (Photo: IAUS)

traditional mountain farmers farming on small mountain terraces, the difficult mountain topography prone to seasonal landslides, breakdowns in transport and communications, high priority of communities to social and cultural events, low demand in local markets and disadvantage when produce has short shelf life.

The IAUS was envisaged as a business to create value for the very small surpluses of poor smallholder producers engaged in subsistence farming on small plots of terraced fields on the steep Himalayan slopes. It was intended to help make the community realise that everything they grew or maintained in this biodiversity rich area had economic value and a market. The venture goes against the established idea of natural advantage-based commodity production and the prevalent belief in economies of scale, specialisation and resultant efficiencies. The mountain topography of the Himalayas is characterised with scattered and isolated communities, small and fragmented landholdings, rainfed agriculture, mainly women farmers, small surpluses of a variety of produce, and poor access to infrastructure including transport, communication and energy. The lack of warehousing, banking and credit were also major hurdles.

The business rose from small beginnings, starting off as a minor component of a larger environmental project in 2006. The Institute of Himalayan Environmental Research and Education (INHERE), a local NGO, was

<sup>6</sup> One of the founders of IAUS

implementing a micro-watershed development and environmental restoration project in the area and towards the end it wanted to utilise some surplus funds for a sustainable livelihood and income generation component.

The early days saw a tussle between idealists/hardcore optimists and the realist-pessimists with influential and decision-making roles in INHERE, or in donor and support organisations. The idealists believed that the untapped potential of the local



**Figure 10: Adoption of hygienic practices in processing food products at IAUS (Photo: IAUS)**

After much deliberation, the idealist-optimist view prevailed due to the presence of a strong and committed champion pushing it. It was decided to look at the advantages and opportunities for value addition. The first value addition was conversion from organic by default to certified organic to be followed by value chains, which used organic processing methods. The newly introduced provision for group certification was taken advantage of, which brought down costs to affordable levels.

Three units were set up to process different lines of produce. One unit was for processing cereals, pulses and spices. A second was for fruits and vegetables as well as honey. The third took care of herbs and medicinal plants. Each unit was established following organic processing norms, quality standards, and was

‘organic by default’ agriculture and the high agro-biodiversity of the smallholder mountain farmers, held untapped monetary value and the potential for the creation of many value chains offering small scale but high quality and valued produce. The realist-pessimists however, were convinced that investment in such a venture would be a waste of money, as the challenges were too many. The evaluation of an agri-business consultant from a reputed institution also went against the venture.

registered under different laws of the state adhering to health and safety and other prescribed specifications. These units continue to work and to it have been added fresh vegetables and a unit for organic seed production is in process. They are all certified organic.

Today, the IAUS procures perhaps the widest range of organic and natural produce from smallholder farmers in the Himalayan mountain villages of Uttarakhand state. Presently, the Himalayan Fresh repertoire has



**Figure 11: Packing under hygienic conditions (Photo: IAUS)**

8 cereal products, 14 spice products, 10 fruit and vegetable-based processed products and 36 herbal and medicinal plant products. A team of 19 people handles the day-to-day operations, playing multiple roles according to need. The products are marketed locally as well nationally through the organic section of a well-known market chain.

However, not all are rosy and major challenges remain. The business of farmer producers and local farming communities in rural areas continues to remain fragile due to limited financial resources, few infrastructure facilities, warehousing systems, poor transport links and little ability to access markets. Major setbacks could prove extremely challenging. The low risk taking ability of the farmers influences both growth and profits. Farmer organisation business in a developing country tends to grow at a slow pace and requires support over a longer period.



**Figure 12: Products ready for sale (Photo: IAUS)**

Development and business are also closely interrelated. Farmers need to be helped for optimising their land use sustainably and for increasing productivity. Increasing productivity requires knowledge of and access to better seed and improved agronomic practices. This is often not available from research and extension agencies because of the organic requirement. The processing using organic methods, which also enables an acceptable shelf life remains a challenge. The variety of produce means dealing with a

variety of rules and regulations that apply to each product and dealing with multiple agencies. This also requires large amounts of paperwork making it a challenge to make people with limited education perform these jobs. The high value markets are distant and risky. The local markets are more reliable and enable more control but are small and highly price conscious.

On the balance, there is an opportunity to connect with people with diverse requirements, the satisfaction of keeping biodiversity alive, cuisine and culture of people alive and also the food and nutrition security and sufficiency of people who chose to continue to live in remoter rural areas.

### Key success factors

1. Farmers realise that the biodiversity on their farms is of value and can fetch economic returns either immediately or in the future.
2. Wide range of agriculture produces organically grown and organically processed giving sellers incentive to procure from one source rather than looking to many sources.
3. Keeping a balance between high risk higher paying external markets and lower risk lower paying local and nearby markets diversifies and reduces risk.
4. Building stake of farmers in the business, providing advisory and support services strengthens linkage and loyalty.



## Agricultural Biodiversity Community

Agricultural Biodiversity Community was initiated as part of a joint Hivos and Oxfam Novib Knowledge Programme, Agrobiodiversity@knowledge, initiated in 2011. This Knowledge Programme aims to break through the barriers that limit the scaling up, institutional embedding and horizontal extension of practices that build on agricultural biodiversity for improved livelihoods and resilient food systems. abc was constituted by diverse organisations and individuals working on agricultural biodiversity with millions of farmers worldwide, where evidence and insights are generated, shared and tested. The knowledge programme aims to synthesize knowledge from a local to a global scale, conduct research on approaches and analytical frameworks that provide new perspectives on agricultural biodiversity and its role in resilient socio-ecological food systems, and improve horizontal and vertical knowledge flows towards positive change and transformation.

### About this Report

When the Agricultural Biodiversity Community (abc) formulated its focal working areas during its second meeting held in Thailand in 2012, one of the key working areas designated was “Markets and Trade”. Because markets and trade are such a powerful force in the world of today, that the abc grasped this as one of its key working areas. In this era where “Money” rules, to ignore or attempt to fight the market economy head on, seems like a recipe for failure. Many of the abc members were already working to use the market as a force for positive change. These members saw the market, not as the cause of these losses in itself, but a tool that could be used in many ways. Challenge and opportunity for all the members were to use the market and the very powerful vote and force of “consumers” to support agricultural biodiversity, the custodians of this diversity (small-scale farmer families, herders, fisher folk, and forest peoples) and the methodologies and ways of life that support this diversity (best defined now by the term 'Agroecology').

With these thoughts, many of the members with experience on these very points coming from Africa, Asia and the Americas sat down together in Thika, Kenya, to share their experience and try to map out how markets can and are working to support agricultural biodiversity. The goal was generating from the practical experiences a sort of road map of possibilities and paths, looking at challenges and how they could be overcome, and looking at successful cases and identifying what are the key success factors. Such a map of possibilities and stories to accompany could inspire many others and give them clear ideas and approaches on how to move forward. This report deals with the understanding of the context, specific insights from various practical experiences and synthesis of learning and challenges.



**agricultural biodiversity community**

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