

# Collective action for biodiversity and livelihoods

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The role of well-functioning markets for development is now widely recognised, but the challenge to make these markets benefit the poor and the environment remains. Increasing attention is being given to the potential role markets can play to conserve agrobiodiversity through product diversification and increasing competitiveness in niche and novelty markets.

The market chain for small-scale farmers' fresh and processed products is full of obstacles. Firstly, farmers have limited access to physical and financial resources. This makes it more difficult for them to enhance their scale of production which would reduce costs, or to invest in efficiency-increasing and value-adding technologies. The issue of scale also means that it can be difficult to market a product effectively, in terms of transport and handling costs, and for fixed investments. In some cases a shortage of labour, which can often be solved by introducing a relatively simple technology, prevents farmers from embarking on otherwise attractive value-adding activities. Secondly, smallholders often have limited technical skills and no access to training on production and processing and information on market requirements. Lastly, individual farmers lack bargaining power and as a result any value added to their products by processing or packing may not benefit them directly, as it is often distributed unequally among all the actors in the marketing chain. This is especially the case for seasonal and highly perishable agricultural products because of sudden peaks in supply and a relatively short durability of the products. Economies of scale resulting from the formation of community-based organisations could address these problems. Through collective action, smallholders are able to pool their resources and market their products as a group, so overcoming transaction costs resulting from their small scale. Such organisations can help improve access to resources such as inputs, credit, training, transport and information, increase bargaining power, and facilitate certification and labelling.

Bioversity International (formerly known as the International Plant Genetic Resources Institute) has undertaken several studies that explore the use of market-based approaches to on-farm agrobiodiversity management and livelihood improvement. Case studies have been developed on a range of species, varieties and derived products, including underutilised species and commodities in several regions of the world. These have all shown the importance of collective action.

## Thai cowa

A women's co-operative in Chanthaburi province, Thailand, is processing several products derived from a range of tropical fruits, one of which is *Garcinia cowa*, commonly known as cowa. The group, which is over 20 years old, has recently joined the "One Tambon One Product" programme, which was put in place by the Thai government to produce goods of locally available and important resources in order to promote tourism in Thailand at the village (*tambon*) level and increase rural income from the sale of the products. The co-operative, now consisting



Photo: M. Keizer

Rope twining machines have been lent to individual group members, so that they can make doormats and other products.

of 40 members, was established after a storm damaged the community's durian and mangosteen trees. The immature fruits dropped and could not be marketed as fresh products. Some of the female community members therefore decided to process the fruits in their homes. Supported with capacity building by the district's agricultural extension office, the women were encouraged to process these fruits more frequently from their homes and start adding other fruit tree products. This includes a local dish called *Moochamung*, produced with leaves of the cowa tree, harvested from home gardens or the wild, pork and some other ingredients mostly found in the women's home gardens. The product is canned, labelled and marketed in tourist shops and markets.

The members can buy shares in the co-operative, while profits from this investment are distributed to the members on an annual basis. Members do the processing activities and receive wage payment for their labour. The co-operative also provides credit facilities to its members. The existence of the group has substantially increased the members' income from tropical fruit tree products and has overcome the problems of oversupply of some fruits. Organising as a group has given them access to the appropriate training needed to successfully apply for the food hygiene and safety certification.

## Indian kokum

Kokum (*Garcinia indica*) is an underutilised fruit tree, native of the Western Ghats in India, mainly growing in the western parts of Maharashtra, Karnataka, Kerala and Goa. The fruit is

used as a treatment for obesity; the rind as souring and food colouring agent, and the fat of the seed is extracted for cosmetic and confectionery uses. In Uttara Kanada collectors of kokum are having great difficulty in marketing their product because of legislation by the Forest Department. Collection from the wild is only allowed if a permit is obtained, which can only be done by entering into a tender system. Unorganised collectors are unable to obtain this license. Because they depend on the forest resources for their livelihoods, they are forced to collect illegally and sell the products through middlemen who have been able to obtain the license. This clearly limits the collectors' bargaining power. Prices for the dried fruits are extremely low and have been decreasing in recent years, resulting in fewer people collecting kokum. For these collectors, who are living below the poverty line and depend on forest products and occasional wage labour, this has had a negative effect on their livelihoods. There is a clear need for increased collective action, enabling them to obtain a license as a group, which would however require some public intervention and capacity building.

### **Vietnamese coconut products**

In the village of Tam Quan Nam, a very poor coconut growing community in Binh Dinh province in Vietnam, a poverty reduction project was implemented by Bioversity-COGENT (the coconut genetic resources network). With the project's assistance, members of a community-based organisation identified the opportunity to increase efficiency of coconut husk processing to replace the old labour-intensive practice of removing the husk and beating it into fibre by hand. A collective loan was provided in the form of a set of beating and decorticating machines to produce the fibre out of the coconut husks. In addition, 150 rope twining machines were lent to individual members. The members volunteer to sell their raw product, the coconut husks, to the organisation at a slightly lower price than elsewhere. In return they benefit from a stable and higher income through the making of ropes and doormats, which are collectively processed and marketed. Through an increased volume and wider range of products the organisation has a stronger negotiation position than the individual members would have on their own. The joint venture also increases mutual trust and friendship amongst the members, who would otherwise be competitors. The beating and decorticating machines are operated by the organisation's daily management. The members queue up early in the morning to receive their individual supply of fibre which they process into rope using their twining machines. The organisation then buys back the rope (after deducting the cost of the fibre) which in turn is processed into various products, such as doormats and textiles. The manufacturing of the various end-products in the community itself increases employment opportunities for a large number of non-member workers. Owing to the higher incomes from coco-based processed products, farmers value their coconut plantations more and are conserving their existing coconut palms, contributing to maintaining genetic coconut diversity in the area.

### **Syrian laurel soap**

In the mountain region of Syria, villagers collect laurel (*Laurus nobilis*) berries from wild trees on state owned land. The oil extracted from the berries has been used for centuries in traditional Syrian cosmetic products. Age-old methods, transferred through generations, are used to produce *ghar* (laurel) oil and soap. A law protecting forest species forbids the collection from wild laurel trees for commercial use and also forbids the harvesting of laurel trees in private lands. Nevertheless, berries

are collected from the wild trees for commercial purposes, and there is an informal agreement among the collectors about the access to trees. The oil is extracted manually through a labour-intensive process undertaken by women and children in their home gardens. The local soap maker or the trader always buys the oil from the same households. Due to a lack of trust between the collectors and traders, the latter decrease the buying price, whereas the collectors try to lower the quality of the oil, further reducing trust between the two parties. The formation of a collector group to allow a more stable supply and price is also discouraged by the law, limiting the commercial harvesting and marketing of laurel products. Hence, the supply of laurel oil remains scarce, scattered and of low quality. As a result soap makers import the oil from Turkey.

In the village of Kassab in north-west Syria, a local soap producer has brought together a group of collectors living in the forest area. High value soap is being produced for the local and export markets, bringing job opportunities for the local people and improving livelihoods of households who make laurel products in the village. The soap producer tried to overcome the difficulties and confusions about the existing forestry regulations and their application, by involving the collectors in lobbying for improvement of the regulations regarding sustainable collection from the wild and harvesting on private land. This will also allow better conservation of this biodiversity resource.

### **Collective action and livelihoods**

These cases show that collective action is a social process that can be triggered by a range of factors. Groups of people learn through a process; together they define problems, search for and implement solutions, and assess the value of a solution for a specific practice. This process is often referred to as "social learning". The cowa case from Thailand shows how a group of women friends initiated the idea of processing fruits in order to utilise their resources. The initial success, together with the high degree of shared values, agreements and trust amongst the women, enabled further social learning and capacity building. The case illustrates that this process can be the starting point for institutionalising collective action – government agencies and NGOs stepped in to provide capacity building and technical equipment, thus accelerating social learning. The collective activities carried out can be considered highly successful in terms of market performance and maintaining biodiversity.

Some of the communities in these cases still lack a mechanism to trigger the process of collective action. For example, in the kokum case in India, where legislation makes individual collection of kokum fruit from the wild forest lands difficult, the formation of collector groups might be one way to empower them. These collectors, and those in the Syrian mountain communities collecting laurel berries, are still at the beginning of the social learning process. The laurel case shows that on the one hand legislation makes collective action more difficult, while on the other hand there is a need for a means of negotiation (through dialogue including all those who are involved in the laurel market chain and through collective action) to solve conflicts between lawmakers and communities.

If collective action is not initiated by the communities themselves, or by external projects such as the coconut project in Vietnam, it may be begun by other factors or individuals "further down" in the market chain. Initiators are often individuals who are commercially motivated and business minded. This makes it more difficult to ensure that the wider community benefits.

However, this does not necessarily mean that the community should be worse off; a link with someone reliable, who is involved in the market sector, has the potential to secure the outlet for their produce. In the laurel soap maker example, the entrepreneur who started the process acknowledged the mutual interdependence among those involved. The need for the active involvement of producers or collectors for improved quality, a stable supply and the improvement of regulations, stimulated the formation of producer groups. There is a need for a key person with initiative and motivation to initiate the process of collective action, who has an impact on the group formation and functioning. This key person could equally be one of the collectors or someone further down the chain.

Collective action can create a more effective market chain that is more stable and can produce the products required at the time needed and of the quality wanted. As a group, producers are able to provide a more stable and higher quality supply of raw material, which also improves the economic efficiency of the market chain. In all cases, improved trust and connectedness among the various actors is already present or expected, within and across the groups. The higher bargaining power and improved access to markets for group members, are made possible by creating a link with other actors along the chain (bazaars, traders and processors for kokum, the soap maker for laurel, and the end users of coconut fibre products). As a

consequence this contributes to a more equitable distribution of profits along the market chain.

### Collective action and biodiversity

The case studies also indicate the importance of collective action for the maintenance of on-farm biodiversity. In the laurel case, where species are collected from the wild, collective action increased awareness about the need for sustainable collection methods and the need to cultivate commercial species. This makes it more likely that the biodiversity related to these local wild species and varieties will be conserved. In the coconut fibre case, the social learning processes raised awareness of the need for linking and combining regulations on biodiversity conservation and economic exploitation. As it was seen that coconut fibre can be processed into high value products, the community now values the coconut trees more, which gives them the incentive to conserve and maintain the local coconut varieties. The same is also happening in the cowa case, where the processing of local products provides an incentive for the planting of new seedlings. The case of the kokum collectors shows that when farmers are no longer able to use or benefit from a certain species, due to obstacles in the market chain, the incentive to conserve this species reduces.

The cases presented have illustrated that improved market participation has the potential to increase how farmers can use and benefit from agrobiodiversity. This therefore stimulates on-farm biodiversity maintenance, although this relationship is not always equally strong or straightforward. They also have shown that the involvement of producers and collectors in the social learning process is important for more environmental sustainability. If the involvement of other market chain actors is ensured as well, this process can form the basis for the trust and connectedness (social capital) that is needed for the reduction of individual risks that in turn is essential for the facilitation of long-term investment, thus enabling sustainable harvesting and investments in processing technology and planting material.



**Kokum, collected from the wild, has multiple uses. However, collection is only allowed with a permit, and unorganised collectors are unable to obtain this license.**

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