



## **Living and Learning in Rural Southeast Asia: The Program Where Academe, Scientists, Farmers, and Policymakers Converged to Promote Farmers' Rights and Biodiversity**

SEARICE AND LAURA CLICHE

**ABSTRACT.** Small land owners are now faced with multiple challenges. Apart from their daily survival, they confront an often fragile environment, the consequence of either years of single-crop farming, climate change, drought, poor quality yet expensive seeds, and scarcity of land. Needless to say, addressing these issues requires a holistic approach, where social, economic, community, and policy measures have to be considered. Rare are the programs able to join these spheres in symbiosis, especially when it comes to gathering all the key actors. Through recognizing the difficult path ahead, Southeast Asian civil society organizations have taken crucial initiatives to reinvigorate agricultural practices, thus protecting the fragile biodiversity while launching capacity-building processes with farmers. The Community Biodiversity Development and Conservation-Biodiversity Use of Conservation in Asia Programme (CBDC-BUCAP), conceptualized and implemented by SEARICE, is one of such initiatives. This article offers a comprehensive assessment of the nature of and the work undertaken by CBDC-BUCAP, presenting an overview of its components, participants, contributions, main results, and the challenges to be addressed in the future.

**KEYWORDS.** farmers · seeds saving · knowledge · biodiversity · farmers' rights

### **INTRODUCTION**

Southeast Asia has been essentially agrarian for centuries, as revealed by its vibrant agricultural population, its golden rice fields, and the more than a thousand rice varieties developed through traditional and collective knowledge. However, past the charms of this imagery is a bitter reality of starvation, suffering, and urban exodus.

According to the International Fund for Agricultural Development (IFAD), at least 70 percent of the world's hungriest people come from rural areas. It is especially true in the Southeast Asian region, which

tragically claims of having the greatest number of rural poor in 2011, close to sub-Saharan Africa (IFAD 2010). Already in 2008, in the wake of the food crisis, Henry Saragih, international coordinator of La Via Campesina, an NGO representing small farmers and landless workers in more than sixty countries, expressed his concerns to the FAO:

Although we are the ones producing food for our families and communities, many of us are hungry or living in poverty. Over the last months, the situation has worsened due to the sudden rise in food prices. We are also severely hit by the crisis because many of us do not have enough land to feed our families, and because most producers do not benefit from those high prices.... This current food crisis is the result of many years of deregulation of agricultural markets, the privatization of state regulatory bodies and the dumping of agricultural products on the markets of developing countries. According to the FAO, liberalized markets have attracted huge cash flows that seek to speculate on agricultural products on the “futures” markets and other financial instruments. (Saragih 2008)

As mentioned by La Via Campesina, the creation of the World Trade Organization (WTO) in the 1990s, and the Uruguay Round before it, created a debut for an extensive liberalization of markets, including the agricultural economy, and shattered the global food production system at the expense of small farmers, marginalized communities, and landless peasants (Massicotte et al. 2010). At the same time, with the great growth of the world’s current population, the demand for food is quickly expanding, adding pressure on the farming community.

Small land owners are now faced with multiple challenges. Apart from their daily survival, they confront an often fragile environment, the consequence of either years of single-crop farming or of climate change, drought, poor quality yet expensive seeds, and scarcity of land.

The state of the land resource itself is undergoing dangerous changes. While this is a global concern, Sodhi et al. (2004) claim that Southeast Asian biodiversity is an impending disaster, with already three plants listed as “extinct” by the International Union for the Conservation of Nature and Natural Resources (IUCN 2003).

In such a context, the conservation of seeds becomes crucial to protecting collective traditional knowledge. This very stance contradicts the current practice of privatization of seeds by multinational firms, a policy many farmers’ organizations fight to restrain in order to enable peasants to debut their own plant breeding (Latrémouille 2010). Needless to say, addressing these issues requires a holistic approach,

where social, economic, community, and policy measures have to be considered. Rare are the programs able to join these spheres in symbiosis, especially when it comes to gathering all the key actors.

Through recognizing the difficult path ahead, Southeast Asian civil society organizations have taken crucial initiatives to reinvigorate agricultural practices, thus protecting the fragile biodiversity and at the same time, launching capacity-building processes with farmers. The Community Biodiversity Development and Conservation–Biodiversity Use of Conservation in Asia Programme (CBDC-BUCAP), conceptualized and implemented by SEARICE, is one such initiative.

This widespread program can influence national plant-breeding researchers and institutions, gene banks, local government units and agriculture institutions, state seed-trading companies, policymakers, and civil society organizations and serve as a starting point for a global reflection on agriculture, the world's food production system, and living conditions of small- and medium-scale farmers. As stated by SEARICE Executive Director, Wilhelmina Pelegrina: "We are targeting poverty alleviation, environmental sustainability, biodiversity conservation, social recognition, food security, sense of belonging, and the future" (SEARICE 2008, 52).<sup>1</sup>

In the next pages, we offer a comprehensive assessment of the nature of and the work undertaken by CBDC-BUCAP, presenting an overview of its components, participants, contributions, main results, and the challenges to be addressed in the future.

### **THE CBDC-BUCAP: EMPOWERING THE AGRARIAN COMMUNITY**

The CBDC-BUCAP is a combination of two programs with different thrusts but with the same goals. The overall goal of the joint project is to strengthen farmers' rights to plant genetic resources (PGR) conservation, development, and use toward farmer empowerment for sustainable agriculture and livelihood systems.

CBDC aims to strengthen farmers' management of PGR through new methods and approaches, and affect policy changes. BUCAP, on the other hand, intends to develop the capacities of local institutions to support farmers' management of their resources. The merger of the two mobilized more farmers, agricultural specialists, policymakers, and funding agencies in a convergence of efforts to promote farmers' rights and empowerment toward proper management of PGR conservation, development, and utilization (CDU).

Table 1. Number of provinces and communities covered by the project

Country	Number of Provinces	Number of Communities
Bhutan	11	29
Laos	4	36
Philippines	4	63
Thailand	2	30
Vietnam Mekong Delta	13 /13	351 / 257
North/Central		
Total	47	766

The primary target groups are women and men farmers in rice- and corn-based farming systems. The secondary target groups include national plant-breeding researchers and institutions, gene banks, local government units and agriculture institutions, state seed-trading companies, policymakers, and civil society organizations

The first phase of CBDC-BUCAP was implemented in Bhutan, Lao PDR, the Philippines, Thailand, and Vietnam from 2006 to 2009. These countries were chosen for the different agricultural, economic, and political landscapes that they represent in the region. The project was supported by the Biodiversity Funds of Netherlands, the Development Fund of Norway, and the Swedish International Biodiversity Programme (SwedBio) of the Swedish Biodiversity Centre (CBM) at the Swedish University of Agricultural Sciences and Uppsala University. In three years, it was able to conduct PGR CDU work in these five countries, forty-seven provinces, and 766 communities. It reached 19,533 farmer-partners, of which almost a third (32.9 percent) were women. These farmers were supported by 325 researchers, extension workers, and other development workers from various institutions, including the academe. The project also reached out to hundreds of students in the hope of nurturing future advocates and practitioners of PGR CDU.

CBDC-BUCAP applied the same processes, approaches, and content areas as those initially in place in the CBDC and BUCAP. The Farmer Field School (FFS) was the main process for on-farm researches on PGR conservation, participatory plant breeding (PPB), participatory variety selection, and integrated pest management. In addition, farmers' technical conferences, training of trainers, training of farmer trainers, farmers' field days (FFD), field visits, seed/biodiversity fairs, and other training in local, national, and regional sites were among the capacity-building activities participated in by the partners, both farmers and direct implementers.

The farmer-partners defined three types of major interventions implemented, which were instrumental in achieving significant results: (a) the capacity development of stakeholders; (b) the technical backstopping; and (c) the availability of seeds, tools, and other materials. For a better understanding of the program, we provide an overview of each input.

- a) *Capacity development of stakeholders.* One of the first major steps of the program implementation was to raise the stakeholders' awareness and knowledge of the principles of PGR and develop their capacity to practice CDU starting right in the farmers' own farms. Farmer-partners credited the capacity-building processes and activities as having brought a range of positive changes in their farming practices. The Farmers Field School, as a process, was acknowledged as effective in bringing farmers together to learn PPB, participatory varietal selection (PVS), and integrated pest management (IPM), among other topics.

Equally, farmers' field days, field visits, training of trainers, on-farm studies, seed and biodiversity fairs, study tours, internship programs, and local and international workshops and seminars were some of the highly valued activities. Farmer-partners regarded these as opportunities to interact with fellow farmers, experts, and authorities; exchange information and seeds; and sell their produce. With regard to specific skills, seed rehabilitation, selection, breeding, and multiplication were cited as the most useful as these helped find solutions to several of their farm-related problems, foremost of which was poor quality of rice and maize seeds available in their communities.

- b) *Technical training.* Farmer-partners, researchers, and extension workers were also recipients of several capacity-building skills training to assist them in providing technical inputs and assistance in the project. As direct implementers, they ensured the continuing learning experience through field visits and consultations. Farmers in Thailand and Bhutan acknowledged the

support provided by extension workers and researchers as valuable in empowering farmers with technical knowledge and sustaining their activities. In Vietnam, it was reported that project staff provided immediate assistance in solving difficulties encountered by farmers. Agriculture instructors in schools and universities, which incorporated PGR-related subjects in their curricula, were given technical assistance as well to help them become more effective as teachers. By 2009, 325 researchers, extension agents, teachers, and institutions had been involved in the implementation of the project. In addition, students from the primary, secondary, and tertiary levels had participated in various activities on PGR CDU sponsored by CBDC-BUCAP.

- c) *Availability of seeds, tools, and other materials.* Complementing the capacity-building training and technical skills activities, resources such as seeds, labor-saving devices, and processing machines were made available to farmers to jump-start, improve, or continue their researches and production. Seeds of different varieties (such as rice, maize, millet) and vegetable crops (like radish, mustard, greens, chili, cabbage, asparagus, cucumber, cauliflower, etc.) were provided for production, conservation, rehabilitation, and multiplication.

Farmers in the eastern part of Bhutan, for example, were taught to convert their harvested maize into a number of edible goods. With the use of a *tengma* (flattened maize) grinding machine provided by the project, they were able to produce no less than thirteen different products from a single kind of crop. In addition to the processing machine, sealing machines were later acquired to improve product packaging. These were then sold under market sheds, which were constructed through the support of the project. This activity generated substantial income and led to the formation of informal farmers' groups, which ensured continuous production and proper maintenance of the machines. The groups subsequently pooled part of their earnings

to put up revolving funds and devised savings schemes for their members. Three farmers' groups reported a combined savings of BTN 142,000 (USD 3,100) from the sale of their maize by-products, a huge leap from zero savings before project implementation.

The resources, however, were not given as handouts, and arrangements on how these were to be "returned" or "paid for" were made among farmers and project staff. CBDC-BUCAP was not after recovering these but rather wanted farmer-partners to assume counterpart responsibilities in implementation.

### PROGRAM SELF-ASSESSMENT

In 2008, CBDC-BUCAP conducted a midterm assessment to determine the status of the project from the points of view of all stakeholders at the community, national, and regional levels.

A community self-assessment (CSA) was carried out by farmer-partners and technical staff themselves using a participatory method of project implementation. The exercise was meant to develop their capacity in monitoring and evaluating their own projects. Specifically, the CSA aimed to (a) synthesize the lessons, results, and impacts of CBDC-BUCAP to be shared among partners and with other relevant institutions; and (b) provide information that would help partners in designing the interventions for the next phase of the program.

A CSA process was favored over an external evaluation system, to give the implementers the advantage of learning from a self-reflection process by identifying successes, weaknesses and gaps in the program. This enabled them to immediately install control mechanisms or remedial procedures to improve the program. The perceptions of CBDC-BUCAP farmers were juxtaposed with those who were not partners to determine if the program has provided any difference at all in the lives of those it works with.

Prior to the actual CSA, farmers and technical staff were trained on the process and methodologies of self-assessment. They were oriented on the data to be gathered, different tools to be used, and how to prepare the documentation of results. Farmers who were not partners of CBDC-BUCAP were invited to participate to get their views about the project.

## CONTRIBUTIONS OF CBDC-BUCAP

CBDC-BUCAP evolved out of the best lessons learned from two programs. It brought together farmers and development practitioners from government and private organizations to create a model of workable and effective collaborations for development. Results of the self-assessment revealed that the program made headway in PGR CDU work at the grassroots, local, national, and regional levels. It contributed in uplifting the lives of farmers, not merely through economics but, more importantly, through empowerment. This was achieved by providing them access to knowledge and resources. Equipped with these two vital components necessary for a decent living, farmers were transformed from being passive recipients of mediocre materials and services to active developers and producers of their own choice varieties. The program went on a step further by developing a network of individuals and institutions to help in the protection and broadening of plant genetic resources through proper conservation, development, and use and promotion of farmers' rights.

In particular, the project made valuable contributions in the following areas:

- a) *Plant genetic resources conservation, development, and use.* It has been demonstrated that participatory plant breeding, the anchor intervention of CBDC-BUCAP, is a doable task for farmers provided that they are equipped with the proper knowledge and skills and have materials at their disposal. It was also proven that on-farm diversity, which was diminishing at an alarming rate, can be revived through the collective efforts of farmers and other stakeholders.

At the end of Phase 1, more than 2,500 farmer breeders, selectors, and trainers were already capable of managing PGR CDU activities. But the success of PGR CDU lies not only in the capacities of individual farmers but also on the will of farmers' groups that were organized precisely to be the collective voice in advancing their rights.

Researchers, plant breeders, and extension workers who provided technical backstopping went through

continuous skill-upgrading sessions as part of strengthening institutional support. The number of these specialists grew as the project progressed and expanded into other areas and sectors. To date, each project country has a network of experts that farmers can call upon when the need arises. Linkage with the academe was established to have PGR CDU integrated in academic curricula and ensure that future generations of agriculture researchers and extension agents would already be equipped with knowledge and skills once they become practitioners of community-based PGR CDU.

More than a thousand high-quality rice, corn, and vegetable varieties currently available for farmers' use attest to their capacity to conserve, rehabilitate, and develop seeds that suit their preference and need. A safety measure was taken with the formation of seed clubs, seed banks, and seed centers, which ensured proper storage and conservation of varieties. Farmer-developed varieties were recognized through certification and/or registration. A testament to the capability of project farmers to successfully execute PPB and PVS is the high demand for farmer-developed varieties within and outside the project areas.

- b) *Livelihood and food quality and supply.* One of the major goals of CBDC-BUCAP was to contribute to the livelihood of farmers by way of PGR CDU systems. This was achieved through sound farming. Increased diversity of crops, production of high-quality seeds, and practice of integrated farming and organic agriculture led to a reduction in expenditures and generation of revenues through the sale of harvest surplus and marketing of seeds and agricultural by-products. Whereas farmers used to produce only for their families' consumption, they now had extra stocks of rice and/or grains and even savings that could be used for the children's education, emergencies, and other needs.

As a result, the threats of food shortage diminished with the introduction of other food production techniques and interventions—for example, vegetable cultivation, fish farming, and livestock production. The project, however, did not merely offer additional provisions; it also ensured better quality produce and helped improve health of farmers and their families.

- c) *Environmental protection.* The practice of integrated and organic farming system created additional food sources, helped reduce expenditures, and taught farmers how to protect plant genetic resources. It created awareness and enhanced knowledge of the importance of caring for the environment and modified behavior accordingly. The mere act of taking into consideration adaptability of varieties to specific local conditions was already a contribution to climate change adaptation.

Changes in farming practices—for example, use of high-quality seeds, new techniques, integration of various components, and use of organic materials and by-products—not only earned enormous benefits for farmers in terms of improved livelihood, food security, and health but also gave the environment a much-needed rest from farming “malpractices.”

- d) *Education and capacity of farmers.* The capacity-building interventions afforded farmers with new and more appropriate knowledge and skills. As they were used to practicing traditional methods of farming, some of which dated to several generations back, farmer-partners improved on their practices to the extent that they were able to contribute in solving farm-related problems in their communities. The ease with which farmers participated in the sessions can be attributed to the participatory method of learning, which created a farmer-friendly atmosphere and allowed them to relate lessons with their own experiences. Farmers conducted experiments and chose their area of “specialization” as they had the options of becoming breeders or selectors. Among the skills, PPB and PVS were found to be the

most useful because these equipped the farmers with the basic requisites for self-sufficiency. Communication skills were equally developed through their involvement in activities such as FFD, seed fairs, and field visits. Through these exposure activities, farmers learned to interact with agriculture experts and authorities and were provided with opportunities to express their ideas and, more importantly, to lobby for their rights. The processes of intervention also served as venues for educating farmers regarding their rights and the technical and legal issues concerning plant genetic resources.

One of the key values of the interventions was the self-confidence farmers gained from the process. Having the belief that they are in a position to uplift their own lives as well as help people in their communities gave them pride and inspiration in carrying on with PGR-related work. A number of them moved on to become trainers themselves and/or leaders of farmers' groups and communities. Their achievements were recognized with numerous certificates, awards, and recognitions for individual and group efforts.

- e) *Role and participation of women.* For women participants, CBDC-BUCAP provided them the necessary space to participate and decide in participatory plant-breeding activities; farmer field schools; and seminars and workshops on the conservation, development, and use of plant genetic resources. In the process, they gained confidence and became more vocal and assertive, more active, and more involved in decision-making processes. They have also been recognized as breeders and farmers, speakers, teachers, and leaders, whereas before their role was limited within the confines of the home.
- f) *Community needs.* The efforts extended to nonproject partners within and outside the project communities. The informal seed-supply system that emerged from the seed conservation, rehabilitation, and development work of farmer-partners filled a huge gap in the sources of high-quality varieties with reasonable rates. Other

farmers living in the project areas were given more varieties to choose from and were able to avail of these through a number of ways such as farmer-to-farmer exchange, seed clubs, or seed centers. To date, there is a growing demand for farmer varieties as communities are assured that the seeds produced are adaptable to the terrain and conditions of the areas and are tried and tested before release.

Nonpartners benefited too by learning new techniques and systems through observation of farmer-partners' practices, daily interaction, or by attending informal gatherings specifically aimed at sharing technical knowledge. Several of them have adapted integrated farming systems or organic agriculture practices for they have seen the benefits that project partners derived. For the communities at large, marketing of grains, seeds, and agricultural by-products created livelihood opportunities for other sectors.

- g) *Government and private institutions.* The public and private institutions were the other integral partners of the CBDC-BUCAP project in the implementation of interventions and continuing education of farmers. Additionally, government support was needed to help mainstream and "legitimize" the project through recognition of the work at the grassroots and formulation of policies concerning plants.

## CONCLUSION

Considering the current unbearable socioeconomic situation of farmers and citizens in rural areas, the CBDC-BUCAP focused its initial initiatives on capacity-building processes for farmers and direct implementers to prepare them in undertaking the tasks of collection, conservation, rehabilitation, and production of varieties. Though still in the early stage of the project, farmer-partners said that they have already gained benefits with the increase in knowledge and development of skills. When applied, these benefits led to more rewards: increased income/reduction of production costs, improved food security, developed self-confidence of farmers, and encouraged more participation

from women farmers. All these were derived through various outcomes: diversity of crops and varieties, high quality of seeds, accessible and reliable seed sources, and integrated and organic farming.

Farmer-partners in all five countries were able to develop a combined total of 1,056 stable rice varieties that are in demand in their communities. These varieties were all experimented on and produced under local conditions, thus quality of adaptability was ensured. CBDC-BUCAP did not only increase the diversity but improved the quality of seeds at the same time. The materials were made available to all through farmer-to-farmer exchange, seed/biodiversity fairs, etc. Integrated farming system and organic agriculture provided farmers with extra income, additional sources of nutritionally better food, and a way of contributing to environmental protection.

With the acquired knowledge and skills and seeing tangible outcomes from their efforts, farmers developed self-confidence in dealing with people from different institutions, notwithstanding their positions. They learned to express their ideas in different gatherings in local, national, and even international settings. Likewise, women farmers gained opportunities to participate in all aspects of PGR CDU work.

Therefore, this program can shine through as an inspiration for civil society in Southeast Asia and abroad. The success of CBDC-BUCAP in targeting poverty alleviation, environmental sustainability, biodiversity conservation, social recognition, food security, and sense of belonging in rural areas shows its relevance. It is efficient in the use of its modest funds and has signs of being sustainable. Therefore, great efforts should be spent worldwide to assess comprehensively its results and the possibility of exporting it, especially to sub-Saharan Africa, now facing difficulties similar to those experienced in Southeast Asia. ❀

## NOTE

1. The 2008 SEARICE meeting in Hanoi was a debut in sharing the values and mechanisms of CBDC-BUCAP. It sought to challenge development practitioners, intellectuals, policymakers, farmers, and NGO workers in the need to adapt and refine solutions for ensuring the livelihood and continuity of the program, and ultimately improve the living condition of the farming community.

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The SOUTHEAST ASIA REGIONAL INITIATIVES FOR COMMUNITY EMPOWERMENT (SEARICE) is a regional nongovernment development organization that promotes and implements community-based conservation, development, and sustainable use of plant genetic resources in partnership with civil society organizations, government agencies, academic research institutions, and local government units in Bhutan, Lao PDR, the Philippines, Thailand, and Vietnam.

LAURA CLICHE, who synthesized the report, is interested in Southeast Asia's civil society and social movements. In her MA paper, she examined transnational solidarity after having worked with the National Union of Journalists in the Philippines (NUJP) in the context of international advocacy following the November 23 Ampatuan Massacre in 2009.