



Two Champion Farmers from Cambodia

Introduction

This case study is part of the work conducted by the Agroecological Learning Alliance in South East Asia (ALiSEA), in order to showcase outstanding agroecological initiatives at grass root level across the Mekong region (Cambodia, Laos, Myanmar and Vietnam). ALiSEA is an innovative regional initiative supported by Gret, aiming at facilitating and fostering exchanges, learning and cooperation between policy makers, civil society organisations, research institutes, universities and private sector stakeholders about Agroecology. It intends to form a strong coalition of stakeholders at different levels – from farmer organisations up to national and regional research centers, and includes the private sector – that is capable of feeding public policies and advocating the stakeholders for stronger support to the wider dissemination of successful alternative agricultural practices. Its regional secretariat is located in Vientiane, Lao PDR and it is part of a wider program supporting Agroecological Transition in the Mekong Region (ACTAE) funded by the French Agency for Development (AFD).

Introduction to the two champion farmers

Ms. Nhem Sovannary, a farmer in Po Preah Sang village, Taphem commune, Tramkak district, Takeo province, was awarded first prize in 2013 and third prize in 2014 during the System of Rice Intensification (SRI) national competitions, organized by The Cambodian Centre for Study and Development in Agriculture (CEDAC). She has 1.5 ha of rice fields, 800 m² homegarden, 8 cattle, 100 chickens and a biogas plant.



Figure 1. Ms Nhem Sovannary

Mr. Ros Mao, a 56-year old farmer, from Chaom Pul village, Por Pel commune, Tramkak district, Takeo province is a well-known model farmer for his innovation in farming based on agro-ecological principles. He has two integrated farms: a homegarden of 0.25 ha with diversified vegetables integrated with poultry, fish and pigs along with fruit trees, and a multipurpose farm (rice, fish pond for fish raising and irrigation, dyke and water channel around rice field for water management, irrigation and flood prevention, vegetable garden, multi-purpose trees for firewood, living fence and soil improvement, and chicken raising). He has used his land in an effective and sustainable way, and with this productive system, his livelihoods have significantly improved.

Description of the Agroecology system

Ms. Nhem Sovannary

Ms. Nhem Sovannary has collaborated with CEDAC since 2004. She first tested SRI on 0.01 ha out of her total 1.5 ha. She got yield of about 300 kg or 3 t/ha while production from 1.4 ha was about 2800 kg or 2 t/ha. In 2013, she was among 735 farmers who registered to participate in the SRI competition organized by CEDAC. She grown rice with SRI practices on 0.3 ha, and the yield was of 7.33 t/ha, making her a SRI Champion. In 2014, she achieved yield as much as 7.5 t/ha, and she got third prize.



On 0.3 ha plot, she grows two rice crops/year, namely early wet season rice and wet season rice. The Early maturing variety was used for early wet season rice, with yield of 6.66 t/ha, and fragrant rice (Jasmine) was used for wet season rice. After the harvest of rice, she grows vegetables (cucumber, water melon, mungbean, and pumpkin), grass for cattle and legumes as green manure on that plot.



Figure 2. The backyard, growing diversified vegetables

At the backyard of her residence, she grows diversified vegetables on 800 m², to make year-round supply to CEDAC shop. The gross revenue from vegetables are about 200-300\$/month. There are no major expenses in vegetable production except electricity cost for watering and seeds for few crops. While growing vegetables is economically attractive than rice, this year, she has invested 8,500\$ (with some loans) for digging a pond of 3,000 m² in the rice field, and has used the soil dug to raise bed for vegetable growing.

In both rice and vegetable production, there is no use of chemical inputs. She produces liquid and solid compost from animal manure, biodigestate and crop residues.

Mr. Ros Mao



Figure 3. Homegarden of Mr Ros Mao

When getting into his homegarden, we could feel it is not just a homegarden for producing a variety of vegetables but also a resort. The garden is very integrated and well designed. He started to design this garden in 2003 when he collaborated with CEDAC. Through own experience, he has discovered various innovative farming techniques, making his farm very productive. The below pictures illustrate his homegardening. Committed, keen to test and learn new things, he

has transformed his rice fields into highly productive multi-purpose farm. He has a total of 0.8ha rice field, but only 0.20 ha is transformed into a Multi-Purpose Farm, 0.13 ha for rice field, and the rest is for fish pond, water channel, and chicken raising (Figure 5; Figure 4).

He has started to grow rice with SRI principles since 2003. He said at first, he did not believe practices under SRI could provide good yield and his wife was against it. However, after a study tour organized by CEDAC to see other SRI farmers who had tested SRI, he decided to take a risk to grow rice with SRI techniques in his plot. With the conventional practices, on 0.20 ha of land, he got paddy of about 240kg (1.2 t/ha). With SRI practices, he got 600kg of paddy rice with only 0.13ha or about 4.6 t/ha, which is almost four times higher than yield under conventional practices.



Figure 5. Multi-Purpose Farm: Vegetable garden (left) and rice field (right) surrounded by a water channel. A poultry pen is seen in the background



Figure 4. Multi-Purpose Farm: Pond for fish raising and irrigation + floating garden and raised garden bed (The water tubes are for dripping, a water and labour saving technique)

Outcomes of the practices

Ms. Nhem Sovannary

The net profit generated from this 0.3 ha was about 2,000USD. The cropping patterns and economic analysis is shown in Table 1.

Table 1. The cropping patterns and economic analysis

Crops	Plantation time	Production (kg)	Production cost (\$)	Gross revenue (\$)	Net profit (\$)
Cucumber, water melon, mungbean, and pumpkin	1-Dec-13		13	375	363
Sweet potato	29-Dec-13		5	63	58
Forage	1-Apr-14		5	100	95
Legume as green manure	1-Apr-14		8	-	(8)
Early wet season rice	2-May-14	2,000	25	750	725
Wet season rice	15-Aug-14	2,250	173	900	728
Total			228	2,188	1,960

Mr. Ros Mao

With very diversified and integrated production system, he says he does not need to worry about the infestation of pest. According to his experience, there is no major pest infestation in his farm, and he can simply use his homemade botanical pesticide to chase away the insects.



For vegetables, he does not need to sell it to the markets. Villagers and travellers often come directly to his farm to buy fresh vegetables. From his farm, he earns about 2,500-3,000\$ per year. This does not include the income from accommodating the study visits from NGOs, who bring farmers to see his farm and learn from his experience. During the study visits, his family offers to prepare food for the participants by using the produces from his own farm. Every year, he gets invited by NGOs to provide several trainings to other farmers in the country. In addition, he has provided trainings to farmers in Vietnam and Thailand on soil management practices by using natural fertilizers.

Message from farmer to farmers

“All farmers should grow crops using agro-ecological principles for our environment, our family health and our society. In addition they should dig ponds for water storage, build a compost cage and produce compost as much as we can for fertilizing our farm (vegetables and rice). We as farmers who grow crops should preserve our own seeds, preferably the local varieties so that it does not get extinct. During the rice harvesting season, farmers should properly store rice straw. Rice straw is not only a very important fodder for cattle, but can also be used to grow mushroom and mulch our vegetables”.

— Ms. Nhem Sovannary (Location of Ms. Nhem Sovannary: <https://goo.gl/maps/raZi6YoGR842>. Her own Facebook account: <https://www.facebook.com/nhem.sovanry>)

“As farmers, we should bear in mind this theory: in water, we must have fish, on the land, we must have animals and vegetables and in rice field, we must have rice. My success cannot be realized within days but years. As farmer, we must be active, investing our efforts working in the farms.

Farmers should learn how to share their best practices to other peers. They also should dig small ponds for water storage, collect as much as possible animal dung, crop residues and other organic wastes for producing compost. Don't farm for others but farm for yourselves. When farming, we usually take into account 4 key important aspects: purchase of fertilizers, purchase of seeds, purchase of pesticide, and finally purchase of medicines for the treatment of our diseases. Ultimately, the income earned from our farms is finally given away to others. That is why it is important to rely on locally available organic resources for farming”.

—Mr. Ros Mao (Location of Mr. Ros Moa: <https://goo.gl/maps/5hmnQdm8pAx>)