

# CANSEA a R&D Network on Agroecology Transition in South East Asia

## Promote Conservation Agriculture in the northern mountainous region of Vietnam through maintaining and out-scaling existing farmers' networks and reference sites

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Photo1: Visiting a site of CA maize farmers network in Van Chan district,  
Yen Bai province, Vietnam



## Key results and lessons learned from the Action

The target conservation agriculture (CA) farmers networks and reference sites have been maintained and further developed. During the two years (2016 - 2017), 79 more maize householders (HHs) were supported to join the CA network; this made the total HH members of the CA network amount to 144 HHs. These HHs were technically guided and provided with some necessary materials to select and apply practices for their conditions and needs. They were also guided to keep records, calculate the yield and benefits, as well as to observe the impacts of practices on the soil.

In total, trainings were provided to 277 farmers in CA, agroecology and organic farming as well as in herbicides use and agroecological crops protection; and to 157 farmers in fodder grass processing and cattle feeding. In addition, field days were organized for dissemination and demonstration of practices values and impacts to a wide range of participants (farmers, community leaders, extension officers, district and provincial officers). Participants all acknowledged clear positive impacts of practices on the soil (soil become softer, better capacity to keep water, less erosion etc.) as well as some limited impacts in the crops' yields and benefits. They also discussed the difficulties and barriers to adoption.

In addition to socio-economic results and more globally, the activities implemented with support from ACTAE/CANSEA also allowed to:

- Get a better knowledge of alternative CA systems (DMC, rotation, intercropping, grasses,...) allowing technical and socio-economic advices in various growing conditions of mountainous areas
- Establish farmers' networks and link with other initiatives (international, regional, local) for promoting the adoption of CA practices
- Strengthen capacity building, communication and methodology

Below are the main records and observations in the 4<sup>th</sup> year of the application of selected by farmers CA practices (reduced tillage and mulch; intercropping with legumes; grass contour strips; mini-terraces).

Regarding maize-based system: All the practices (except grass strips) increased the yield of maize and the gross return. On the per working day net return the impacts were different between practices. This was because higher labour inputs were required for the application of CA practices and the increase in working days number were different between practices. The differences were also recorded between two sites, Yen Bai and Son La; in Yen Bai the labour input was much higher, and this was due to smaller scale of farms and plots, and all activities were implemented by hands; while in Son La such activities as ploughing, spraying herbicides... were implemented with small machines. The increase in labour requirement is one of the main factors inhibiting the scaling-out of CA practices. This is because, as described by farmers, nowadays more and more young people leave countryside to work in cities for more money, and consequently labour force availability for farming significantly reduced and became seriously short, especially during the planting and harvesting periods of main crops. On the other hand, due to their habits, farmers are reluctant to spend increased labour for the same work or produce despite of the advantages of CA. To develop adapted mechanization should reduce the labour input and probably help the scaling-out of CA practices' adoption. Nevertheless, despite some efforts have been spent, due to small scale of farms and plots, and because of complicated topography in the northern mountainous region of Vietnam (NMR), not yet any realistic options have been identified. When grass strips were planted as contours for soil erosion control, the maize yield could be reduced due to the decrease in the number of maize plants in a hectare. However, HHs could also harvest grass to feed their cattle, and this greatly helps develop animal husbandry. Farmers who raised cattle mentioned that this would be of great benefits for them. The

problem however was that the fields are far from HHs and farmers face difficulties in bringing grasses home to feed their cattle.

Regarding tea-based system: The application of mulch and organic fertilizers resulted in an increase in tea yield, total return, net return and also the net return per working day as well as per VND spent, while the pest problems reduced. The quality of tea also increased; Tea leaves were analyzed in chemical and microorganism contaminations, and results show that they were free of all the chemical and microorganism elements according to the safe tea product standards.

Still, the results and findings are not yet enough to get a visible implementation of the mentioned CA practices in the mountainous landscape of northern Vietnam. Additional efforts should be done and priorities should focus on:

- Building capacity for farmers in safe use of chemicals (for the users, the food products and the environment)
- Strengthening research for development on agroecological control of pests & diseases (ACP approach)
- Developing CA and AE systems suitable for different contexts to gradually replace mono-cropping systems of maize or cassava on slopes, as part of the 4 per 1000 program recently signed by MARD.

The activities also allow us to make a conclusion that, for successful promotion of scaling-out and scaling-up of CA and AE in the NMR, to develop links between farmers-farmers and between initiatives by different stakeholders is a necessity.



Photo 2: Maize dominates largely in the mountainous landscape of northern Vietnam

## Context of the Action

In the northern mountainous region of Vietnam (NMR), where each year maize is produced in over 500,000 ha, cassava in about 120,000 ha and tea in over 90,000 ha, mostly on slopes, sustainable sloping land use has become a prime priority. Efforts have thus been spent for developing and promoting the adoption of farming practices of value for soil erosion control. Among most notable initiatives was the AFD funded ADAM project (2010–2013) which succeeded in establishment of CA farmers' networks and reference sites Yen Bai, Son La and Phu Tho provinces for maize- and tea-based systems. After this project's end, NOMAFSI with support from CANSEA (2014–2015), and latter from ACTAE/CASEA regional project (2016–2017), continued to maintain and scale-out these farmers' networks and reference sites towards developed CA in the region.



Photo 3: A field day to the reference site of CA and organic tea in Phu Tho province

## Objectives of the Action

To maintain and further develop the farmers' networks and demonstration sites previously developed under the ADAM project for further disseminating and promoting the adoption of CA practices in the northern mountainous region of Vietnam.

## Partnership

Involved in the implementation of this activity together with NOMAFSI were farmers and community leaders of the target villages, the Provincial Department of Agriculture and Rural Development (DARD) as well as the extension network of Son La, Yen Bai and Phu Tho provinces. Leaders and researchers of ACTAE/CANSEA provided invaluable advice and support, especially in pest and crop management.

## Location and description of the Action

The main activities included:

- To maintain and further develop CA maize farmers networks in two sites, one in Moc Chau (Son La province) and one in Van Chan (Yen Bai province). These sites have maize as the main annual crop on slopes, and are complementary in terms of climatic conditions. In Moc Chau, it is colder and with longer dry season, allowing only one maize crop per year while in Van Chan, the climatic conditions are not so strong and farmers can have a double maize crop.
- To maintain and further develop CA and organic tea reference site in Phu Tho province, which is one of the provinces with large tea areas in the northern mountainous region of Vietnam.
- To communicate on CA practices widely among farmers and extension officers

## Expected impacts and prospects

It is expected that with improved knowledge and awareness, local stakeholders (farmers, community leaders, extension officers, district officers and provincial DARD) will continue to work for up-scaling and out-scaling CA practices. The government of Vietnam and also the provincial and district authorities may incorporate in their agricultural extension and development programs activities to support farmers in overcoming difficulties to adopt practices appropriate for their conditions. On the other hand, hopefully, the recommendations for input spending for R&D towards mechanization and Agroecological Crops Protection will be taken into consideration during the identification, development and implementation of future projects.

## Useful links and contacts

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