



# SIANI

Swedish International Agricultural Network Initiative

## Higher Education for Sustainable Agriculture and Sustainable Development in Laos

Policy Brief

March 2016

### Background

This policy brief resulted from an outline agreed during discussions at a SIANI supported national “write-shop” with experts from the Laos Ministry of Agriculture and Forestry (MAF) and the Laos Ministry of Education (MoE), scholars and civil society organizations working on sustainable agriculture development, which took place at the National Agriculture and Forestry Research Institute (NAFRI) in Vientiane on 4 August 2015. The SIANI Expert Group on Higher Education for Sustainable Agriculture (HESA) in Southeast Asia developed the policy brief as part of its main national project in Laos in 2015. It also draws on lessons learned from experts from across Laos, Thailand and the Philippines who attended the regional SIANI-HESA workshop held at Chulalongkorn University, Bangkok, on 18–19 August 2015.

Sustainable agriculture is defined for the purposes of this brief as agricultural practice that meets the needs of farming communities to achieve food security and poverty reduction without compromising the ability of future generations to do the same. It includes traditional agriculture, organic agriculture, and integrated agriculture and agro-forestry. Currently, the curricula for all these approaches need to be updated to better meet the challenges facing Laos. Updated curricula could be piloted in projects for specific target groups, such as vocational college students. They could then be applied more widely in order to better sustain and balance the needs of the economy, society and the environment.

This new initiative would complement the current agriculture development strategy in Laos, which aims to modernize the agriculture and forestry sectors in order to achieve food security and poverty reduction for all and ensure environmentally friendly practices. In order to implement this strategy, however, enhanced skill levels will be required. The provision of higher education and training will therefore be essential to improve the technical knowledge and skills of the agricultural labour force. This would improve the capacity of the current agricultural system to respond to the needs of farmers and the policy objectives of the government.

### Proposal for a Pilot to Test and Implement the Recommendations

As discussed above, current policies and activities are designed to support schools, vocational colleges and universities. They also tend to support only those students who are successful in their applications to attend college or university. A large number of people need to find other ways to continue their education, having dropped out of school to work as hired labour. A pilot project on vocational training for sustainable agriculture and other knowledge about agriculture and livestock production will be crucial to improving labour skills.

Such a pilot would also aim to provide ‘training of trainers’ for new university graduates, through which they could obtain knowledge about sustainable agriculture and further training in specific fields such as organic agriculture.

### Policy Recommendations

In the light of these many challenges, a number of new policies require active consideration. To achieve appropriate and effective promotion of sustainable agricultural production, especially the contribution of higher education to increasing knowledge of sustainable agriculture, the following policy recommendations should be considered:

1. Employment opportunities should be created to cater for the growing section of the labour force that has good knowledge of sustainable agriculture and environmentally friendly techniques. An enabling environment should be created to help workers to have better access to opportunities and benefit from economic growth and development.
2. Creating job opportunities for the labour force that has good knowledge of sustainable agriculture will mean that they can widely promote sustainable agricultural production. Sustainable agricultural production can only be promoted, however, when there are markets to absorb the agricultural products. Information will be needed about the importance of consuming environmentally friendly products, as well as on organic agriculture, good agriculture practices, and so on. Society should be educated through the media, schools and universities using different media such as newspapers, television and radio.
3. Policies should support human resource development based on the demands of the labour market for good agriculture practice, and organic and environmentally friendly practices. The practice of sustainable agriculture should be included in the education system, starting at primary school level. This would help to improve awareness of the importance of safe food and environmental protection throughout a student’s life.
4. Policies should support continuous learning and innovation for teachers to improve their work in communities as they improve their teaching and curriculum.
5. In addition to schools and universities, some training of trainers will be needed for new university graduates and for students graduating from upper secondary school who are undertaking vocational training.
6. Policies should be in place to develop infrastructure and support greater use of scientific study equipment such as laboratories, scientific cropping methods, and so on.



A market selling fresh fruit and vegetables in Vientiane, Laos. Photo by Tari Bowling via Flickr CC BY-NC-SA 2.0

## Higher Education and Sustainable Agriculture

In Laos, the MoE has formal responsibility for the oversight of education. Other ministries share with the MoE responsibilities for non-formal education and training, such as agricultural training.

The country has undergone rapid economic development in recent years but agriculture is still the major source of income for about 80 per cent of the population. Laos is currently in transition from subsistence agriculture to more commercial production. Human resource development and management are a prominent focus of core government strategies. Most of the human resources recruited for both the public and the private agricultural sectors are educated at universities, technical colleges or vocational training centres, or at the agricultural and forestry colleges run by the MAF.

There are major shortcomings in agricultural education, however, most notably the lack of knowledge and learning about agriculture product markets and its lack of practical focus. The MAF is therefore seeking to guide the improvement of higher education in the country. Its strategy aims to develop the skills and human resources required for a modern, market-based agriculture in the public and private sectors. The strategy is focused on the improvement of teaching and learning. It offers a holistic approach based on the principles of pro-poor and pro-environment development, to ensure a successful transition from subsistence to commercial smallholder production.

This poses a different kind of challenge. The transition process will require a new type of agricultural extension worker, and students who are practice-, market- and business-oriented, but can also assist in the areas of primary production, processing and sales, as well as extension, education and research.

Under the new MAF strategy, graduates will have to be more practice-oriented and have strong links to grassroots communities, while at the same time their skills will be more market- and business-oriented. This will be different from graduates from a university with a purely theoretical or academic focus. It is expected that the vocational college graduates will be able to help to reduce rural poverty by transferring modern technologies to increase productivity, channelling agricultural production inputs and finance, and facilitating linkages to regional and global value chains. In addition, human resource development at such colleges will not just focus on secondary school graduates working towards a higher level diploma, but also offer upgrades in training for Provincial Agriculture Office and District Agriculture Office staff, and organize



Improved livestock feed has enabled farmers in Xiang khouang Province, Laos, to earn a better income. Photo by CIAT via Flickr CC BY-NC-SA 2.0

modular mid-term courses for students who were unable complete their secondary education, as well as short courses for other farmers.

There are three regional MAF colleges. One of these, the Northern Agricultural and Forestry College, is acknowledged as a centre of excellence in sustainable upland farming systems by public and private sector partners. It offers skills-based and market-oriented education, training and services, contributing to poverty reduction, food security and income generation in the northern provinces of Laos. This college is expected to be the principal entry point for updating and piloting the new national curriculum on sustainable agriculture.

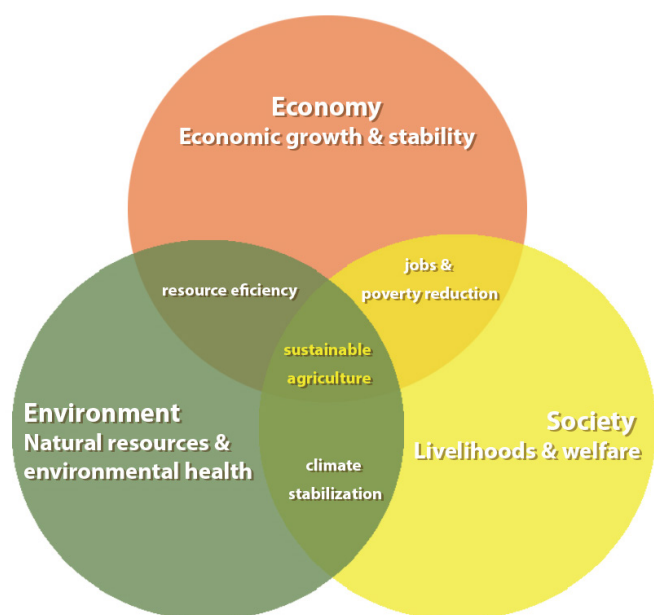
### Policies on Sustainable Agriculture and Higher Education

The aims of the current *National Education System Reform Strategy, 2006–2015* with regard to higher education and universities are to:

- Persist with resolving the problem of a lack of teachers and instructors and, as a minimum, to try to supply a sufficient number of teachers and instructors to meet basic needs, and train and upgrade the capacity of teachers, instructors and educational personnel.
- Train the relevant technical staff, commensurate with the socio-economic needs of the country.
- Upgrade the five Teacher Training Schools to Teacher Training Colleges. Some of the new colleges will be able to run Bachelor of Education (BEd) programmes in cooperation with the Faculty of Education at the National University of Laos.
- Improve the quality of teaching and learning at the three universities with the aim of reaching regional standards and enabling links with international universities.
- Increase the proportion of women students and students from ethnic groups enrolled on higher education courses.

The *Agricultural Development Strategy (ADS) to 2025* and the *2030 Vision* both aim: 'to ensure national food security through sustainable, clean and safe agriculture, and build an agricultural production potential that can significantly contribute to the national economy according to its objectives of industrialization and modernization in connection with rural development'. The ADS human resource development objectives are to:

- Ensure that all government employees are aware of the appropriate skills required for their duties and responsibilities.
- Build the capacity of professional and technical actors in agriculture technologies, as well as in foreign languages and information technology.
- Provide scholarships to rural students interested in the agriculture field to encourage them to support community development at the village level.
- Develop the number of personnel and researchers to 13,941 in





2020, an increase of 49.62 per cent on current levels.

- Provide systematic training for employees or staff covered by the plan to increase their theoretical knowledge and enhance their professional and leadership abilities.
- Upgrade the colleges and schools run by the MAF, improve the quality of schools' management and infrastructure, as well as their development courses, and maintain high performance standards in the Ministry of Education and Sports.
- Provide scholarships to students in rural areas to encourage academic standards in agriculture, especially farming and livestock.
- Ensure that employees of all ages and ethnic groups are treated equally and have access to equal opportunities to advance professionally, be promoted and take up leadership and management positions.

### Trends and Challenges for Sustainable Agriculture

As noted above, sustainable agriculture needs to integrate social, economic and environmental concerns. To successfully implement sustainable agricultural practices, Laos will need to confront a number of challenges, particularly the intensive commercialization of agriculture and its lack of skilled labour.

The areas under intensive, commercial agricultural production, which require high levels of external inputs, are undergoing expansion at present. This expansion involves the use of chemical fertilizers and pesticides that are known to have adverse ecological impacts. Therefore, highly educated agronomists with good knowledge of sustainable agriculture who can help the country and businesses identify alternatives to chemical-intensive agriculture will be crucial for the future of Laos.

The ASEAN Economic Community (AEC) entered into force at the end of 2015. Although many of the implications of the AEC remain uncertain, it will ostensibly bring ASEAN member countries into a single market and production base, enabling a freer flow of goods and services throughout the entire region. This could bring more foreign direct investment to Laos, which is likely to encourage more intensive, commercialized agriculture that will require more agrochemical inputs and have harmful effects on the environment. More people educated about good standards of practice would help reduce or better apply these agricultural inputs. Improvements in agricultural education and training, especially to support knowledge about alternative approaches to agriculture, the environment and health issues, and enhanced technical skills would help meet the future challenges facing Laos and the AEC.

For instance, as a result of market integration and policy incentives, maize production has already been widely adopted in Xayaburi province. Over the past decade, however, this has led to agricultural expansion (forest and fallow conversion), more generalized ploughing and an increased use of pesticides. The transition from cultivation based on rotational fallow farming to intensive hybrid maize monoculture has increased agricultural productivity considerably and rural poverty has declined. However, a growing number of farmers are now confronting land degradation issues

such as soil erosion, lowland siltation, weed pressure and chemical pollution, as well as excessive production costs and growing indebtedness.

Another challenge is that agricultural labour is moving into other sectors. A case study in Champasak province found that only 15 per cent of the households surveyed used their household labour exclusively for their own agricultural production, mainly rice farming. The remaining 85 per cent used some of their labour to earn additional income from either off-farm or non-farm employment in Laos or Thailand. Many young people are migrating to cities and neighbouring countries to take up new opportunities that can provide them with greater cash returns for their labour. When family members move out, there are both negative and positive impacts on families and society.

The labour force, especially young people, is very important for the development of the agricultural sector, particularly as agricultural production becomes more industrialized. New technologies and modern production tools are needed to ensure greater sustainability. Young farmers are likely to have better access to information from the media, radio, television and the Internet. Information on new technologies is also likely to be used by this group. Young people also have more chances to develop their capacities. The government and development projects have tended to promote an increase in agricultural productivity through the use of new technology. Established farmers have limited knowledge of innovation, however, and most of their farming systems are based on traditional practices.

There is therefore a need to strengthen human resource development, particularly to improve the quality of education on sustainable agriculture, and especially Laos' contribution to achieving the global Sustainable Development Goals adopted by the United Nations.

The following documents were reviewed for this brief:

ASEAN Secretariat. 2015. ASEAN Economic Community Blueprint, 2025. Jakarta: ASEAN Secretariat, November.

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