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AgriFoSe2030

Agriculture for Food Security 2030
- Translating science into policy and practice

SLU · Lund University · SEI · University of Gothenburg

A report from the AgriFoSe2030 workshop:

How to bridge policy and science: fostering dialogue between science, policy and practice

26–27 January 2018, Bangkok, Thailand

The need for science-based decision-making

In South Asia the rural population make up 70% of the population and in Southeast Asia the number amounts to 50% of the total population (FAO 2017). South and Southeast Asia's smallholders represent a traditional, perhaps outdated, form of farming, however farms < 5 ha constitute 60-70% of the agricultural area in South and Southeast Asia (Lowder et al., 2016). This makes them essential for sustainable development in these regions.

Southeast Asia witnessed the world's largest regional decline in number of undernourished people between 1992 and 2014, and South Asia also experienced a downward trend in undernourishment (OECD 2017). Agricultural transformations in low-income regions have successfully increased smallholders' incomes worldwide, significantly reducing poverty and hunger. However, some South and Southeast Asian countries have struggled to achieve this kind of transformation, and their rural populations are migrating to the cities in large numbers (FAO 2017).

Transformation of smallholder farmers is essential to improve food security in these regions. Small farms are increasingly unviable in isolation. The phenomenon of the part-time farmer, who needs to make ends meet by engaging in other, non-farm activities, is gradually becoming ubiquitous.

Smallholders traditionally grow bulk staple crops, such as rice, which often bring low returns. To make up for low prices, the focus of extension agencies has been on intensification and expansion by scaling up production of the same crops. As both land area and potential yields will reach their natural limits, it is evident that a more qualitative transformation is required.

In recent years, farming in Southeast and South Asia has changed focus to market oriented farming (Fan et al. 2013). Smallholders are increasingly dependent on monetary income rather than producing food to sufficiently feed their family. They need to pay for schools, health care, taxes, agricultural inputs, and an array of commodities. With the expansion of modern infrastructure, needs and requirements have emerged that smallholders can only satisfy

The AgriFoSe2030 programme

The AgriFoSe2030 programme, supported by the Swedish International Development Cooperation Agency (Sida), has been set up to translate the state-of-the-art science for supporting better policies and improved practices within the agricultural sector in sub-Saharan Africa (SSA) and South and Southeast Asia.

through participation in national and global markets. Given the size of their land holdings, labour availability, commodity prices and earning potentials, smallholders need to diversify their livelihoods, add value to their produce, find new markets, thus become more competitive.

Scientific research could support this smallholder transformation in various ways. At the farm level, research can identify efficiency bottlenecks. It can help to identify and evaluate technical options to improve productivity and value-adding opportunities while at the same time identifying economically viable opportunities for diversifying livelihoods into non-farm activities. At the regional and national levels, research can support cooperative initiatives by identifying market opportunities, helping with organisational development, as well as with planning and processing.

Research can also help to inform, influence and design policy and geospatial planning, as well as facilitating implementation. Finally, research can support advocacy for sustainable transitions with governments and the private sector.

But today, this potential is all too often underused. There is little communication between local scientists, policy-makers, practitioners and other stakeholders. The result is that scientific findings are not being translated into policy and practice, and research is not informed by the needs, knowledge and experiences of policy-makers and practitioners.

The workshop

The AgriFoSe2030 workshop “How to bridge policy and science: fostering dialogue between science, policy and practice” took place in Bangkok on 26–27 January 2018. The workshop brought together around 50 participants: agricultural scientists from South and Southeast Asia, along with policy-makers and representatives of agri-businesses. The objective of the workshop was to provide an arena for dialogue on how to translate state-of-the-art science in support of science-based decision-making and co-generation. Well-grounded scientific knowledge and empirical data can help improve policies and practices to ensure food and nutrition security and sustainable development in the regions.

During the workshop, participants identified knowledge gaps and key challenges facing researchers, policy-makers and practitioners in the regions today, and how co-generation of science can be a useful tool in this context.
At a general level, the workshop provided opportunities:

- for policy-makers, scientists and researchers to discuss what type of information is necessary to build science-based policies.

Group photo during the workshop. Photo: AgriFoSe2030

Group work at the workshop. Photo: AgriFoSe2030

- how to foster a better dialogue and knowledge sharing
- to build networks and share knowledge and experiences on how to better translate science for supporting policies and practices; and
- to discuss forums, best practices and modalities for co-generation of scientific knowledge within the agriculture and food sectors.

The workshop identified several actions that could improve links between agricultural science, policy and practice.

A large part of the workshop was dedicated to group work around the following questions:

- What are the key challenges in South and Southeast Asia in communicating science and co-generating knowledge in support of transforming smallholder agriculture (from subsistence to sustainable commercialised farms) and ensuring food security?
- How can we translate science to support science-based decision-making and improved policies and practices for increased food security and sustainable agricultural development in South and Southeast Asia?

The results from the group sessions and plenary discussions are given in the appendix below.

Presentation of group work discussions during the AgriFoSe2030 workshop. Photo: AgriFoSe2030

Key messages from the workshop

- The ways of linking science, policy and practice are, in most cases, inadequate and not validated locally/regionally.
- Scientists in the regions are often unable, or have limited opportunities, to communicate their research results and implications of their research to relevant actors.
- Lack of data are blocking policy-science-practice collaboration. When data is available, it is often of poor quality. Even when it is of sufficient quality, it is often not in a form that can produce qualitative results or research outcomes, that can be communicated to policy-makers or practitioners.
- The relationships and communication between researchers, practitioners and policy-makers are often weak or absent. Hence, mechanisms and intellectual know-how for how to co-generate science and keep a dialogue between these actors are largely required in the regions. Knowledge brokers may contribute in creating such mechanisms and provide the know-how.
- In translating science for policy-makers and practitioners, *transparency, scientific integrity and trust* are crucial.
- There is a need to increase efforts of building capacity and strengthen individual and institutional mechanisms to collect, analyse and regularly share data and knowledge in a comprehensive and participatory manner.

Conclusions

How smallholder livelihoods in South and Southeast Asia are transformed will, to a large extent, determine the future for countries in the regions and their ability to reach the Sustainable Development Goals. Research will be critical in helping countries in the regions to catalyse and govern the transformation agenda through science-based decision-making. Accessible and reliable data, technical skills, and scientists' capacity to communicate and popularise their research findings are all vital elements to ensure that such a transformation is possible. The promotion of dialogue and platforms to bridge policy, science and practice is also of equal importance.

Workshop participants suggested potential activities and follow-up projects that could add value to the workshop and the AgriFoSe2030 programme. These included case studies of specific science-policy-practitioner dialogues in the regions, systematically documented and analysed for challenges, best practices and lessons learned, gathered in a co-created publication.

Pineapple farm in Laos. Photo: Adri berger ILO.

Appendix - Summary of workshop group discussions

The workshop group sessions were broad and covered many aspects of policy-science-practice linkages, however the dialogue centred around two main areas:

1. Defining the current problems and challenges related to links between agricultural science, policy and practice.
2. Key components of a functional dialogue between science, policy and practice.

A summary of conclusions and messages are given below.

Defining current problems and challenges

Models for linking science, policy and practice

Participants agreed that the models for communicating and translating agricultural research into useful input for policy development and improved practices are largely inadequate.

Countries in South and Southeast Asia often have different models and forums for science-policy-practice interactions. While, in some countries, there is a lack of interaction, in others it is plentiful to the point of being a hindrance. In India, for example, it was argued that the interaction space is not only over-crowded, but also formal, hierarchical and non-transparent. Many Indian public institutions and agencies have been producing research and policy advice on agriculture and food security since the dawn of the green revolution. The national and regional governments funding this research are also, to a large degree, formulating the research agenda and the issues to be addressed.

In most countries in the regions, governments are central in promoting the policy-science-practice dialogue. The participants explained that in Thailand, Bangladesh, Vietnam, Laos and Cambodia there is often a top-down process, where data needs, research and knowledge gaps are framed by government institutions who connect with selected groups of scientists and institutions for knowledge support. Participants agreed that this type of institutional dynamic and models of science-policy linkages make it difficult for scientists outside the systems to interact and communicate their research findings. There are of course exceptions, for example in the Philippines, where several state universities and colleges encourage faculty researches to contribute to policy-making as one of their outputs, which may be considered a bottom-up approach.

Common problems inherent in the science-policy-practice models includes;

- Science-policy-practice dialogues are often built on a weak knowledge base, hearsay and few facts.
- Weak interdisciplinary and inter-sectoral links. Horizontal coordination (across ministries) is rare, making it difficult for actors to understand the full complexity of issues and problems and potential strategies for addressing them. Policy-makers are used to take decisions without input from scientists.
- Inadequate monitoring and evaluation of polices, strategies, and practices.
- Processes and selection of expertise to support policies and practices are non-transparent.

Inadequate capacities to communicate

Participants highlighted that most scientists in the regions are not trained to communicate their research outside of academia. Researchers at the workshop explained that communication departments at their institutions are often small and lack abilities and resources to train scientists to become better communicators.

Consequently, research findings and solutions are seldom disseminated or packaged in appropriate formats or languages for policy-makers, practitioners or media. Participants also mentioned how research is often primarily academic and designed to address knowledge gaps that are not relevant for policy-makers or practitioners.

Data quality and availability challenges

Reliable data, in all its forms, is crucial for science-based policy development and support to decision-making. Workshop participants raised that there are many disconnections between available data and a functional science-policy-practice dialogue. The importance of data was illustrated during the workshop through a quote from the Executive Director of the United Nations Economic and Social Commission for Asia and Pacific (UNESCAP), where

she stressed that “achieving the SDGs is impossible in the Asia-Pacific region without better data”.

With respect to data challenges and needs, participants highlighted the following issues:

- There is a lack of data in the field of agricultural science and food security. When data is available and accessible, it is often of poor quality, or not in a form that is suitable for policy-makers or practitioners.
- It is often difficult to collect good, adequate data, e.g. from government institutions or private sector.
- Government agencies are collecting and sharing data in an incoherent manner and the sharing of data between local and national government agencies and ministries is inadequate.
- There are data sampling inconsistences and problems with standardisation of data collection techniques.
- Politicisation of data (using information selectively for political purposes). Data can be a type of currency (valuable to the holder of data) which can be used to carry favours, impede policy and even foster corruption (if not ethically or wisely managed).
- Lack of incentives (financial or other rewards) for collecting or sharing data. Sometimes there are more risks than incentives for sharing and communicating data if generated information is sensitive.
- There is a problem with covering the cost of data access, especially if proprietary data is in private hands or linked to intellectual property protection.
- The processes for publication, analysis and use of data are not always straightforward.

Disconnections between scientists, policy-makers and practitioners

A common, overall perspective brought up by participants was that there is a large divide between researchers, policy-makers and practitioners in the regions that needs to be bridged. Scientists in many parts of the regions carry out their work in isolation and rarely engage with policy-makers and practitioners. Workshop participants also experienced a silo thinking and lack of links between various sectors and policy arenas.

The use of networks is therefore important in this regard. Informal networks are as important as formal institutional set-ups in the science-policy-practice interaction. Developing networks, is, however, a challenge requiring researchers to actively engage in relevant science-policy forums and in issues facing policy-makers and practitioners. Academics often need to make a name for themselves to be sought out for policy input. Being part of broad and trusted networks, where reliable and continuous knowledge-sharing and communication is key, will support researchers to become more relevant for processes supporting policy development and improved practises. To build and manage a network is demanding and takes time, where researchers need to cultivate both academic and non-academic contacts simultaneously.

The workshop participants shared the notion that what often is missing is a holistic approach to complex problems. Multidisciplinary and participatory research and knowledge sharing, allowing experts and actors to share and understand different perspectives, are rare in the regions.

There is a demand for platforms for dialogue where stakeholders can interact with scientists and collaborate in generating new knowledge. This would include co-design of research, whereby scientists, policy-makers and practitioners jointly can identify problems, knowledge and data requirements that could support science-based decision-making and improvement of practices. In this context, understanding the needs, and the reality of smallholder farmers is critical. Moreover, regional differences within a country may be critical as the conditions of farmers in an area may not represent the entire country. Extension services and private actors are continuously engaging with farmers. Researchers interested in supporting policy development and improved practices need to build links with farmers, extension services and private sector actors.

Organising stakeholder meetings, involving multiple actors is an effective way to build networks and improve relations. Stakeholder meetings do happen in some countries, such as the Philippines, Indonesia, India, and Bangladesh, but are rare in the regions as a whole.

Key components of a functional dialogue between science, practice and policy

Having defined the main problems in linking agricultural science-policy-practice in the regions, workshop participants continued with identifying some of the key components of what a functional dialogue between science, practice and policy could look like. It was recognised that science-policy-practice dialogue processes are complex and dependent on social, cultural and political factors and that science-policy interaction mechanisms vary between countries. There is no ideal blueprint that could easily be translated into different national and local contexts. Participants instead defined four key features that should always be part of science-policy-practice interactions:

1. Capacities and incentives to communicate and build networks
2. Transparency, integrity and trust
3. Data collection and data sharing mechanisms
4. Mechanisms for co-generation

These are further described in the following sections.

Capacities and incentives to communicate and build networks

To engage with policy and practice, scientists and their institutions need to create incentives and build capacity to communicate and network with non-academic actors, including policy-makers, civil servants, practitioners (e.g. farmers and private sector actors) and the media. For example:

- Provide training courses to enhance the capacity of scientists to communicate their science to non-academic actors. Such courses would also increase the understanding among scientists and policy-makers on how science could support policy development, implementation and improvement of practices.
- Create incentives for scientists to engage with policy-makers and practitioners. This could be promotion criteria for academic careers which, apart from academic merits, could be based on science communication, policy/practitioner engagement and societal engagement.
- Researchers need to develop formal and informal networks. This can result in that policy-makers and researchers develop a common understanding of needs.
- Effective and trustworthy collaborations need to be ensured among universities, research institutes and other government and non-government institutions.
- Universities and research institutions should develop their training curricula, including masters and PhD programmes, on science-policy-practitioner interaction and science communication.
- Researchers should receive media communication training and more actively engage with the media, including social media, to communicate their science.
- Scientists should involve journalists/media in the dissemination of research results and, where appropriate, invite policy-makers, practitioners and media to visit field sites, agricultural trials and demonstration projects.
- Support and encourage scientists to get their research published in channels beyond academia (e.g. in the form of popular science blogs, policy briefs, media coverage)

Transparency, trust and scientific integrity

Translating scientific findings in support for science-based decision-making is challenging and involves a high degree of transparency, trust and scientific integrity. As the amount of available data and communication grows, understanding and managing information becomes more difficult. It was agreed that this is a process where scientists, governments and practitioners all have different roles. Scientists need to continuously build on their reputation as a trusted, objective, reliable and valuable voice, not pushing a political agenda. Good quality research, solid evidence and independence of researchers are important in this regard (low-quality science can contribute to poor policy and practices).

However, trust is a two-way process, requiring a willingness and sincerity to engage and share knowledge by all parties. To attract interest, engagement and input into the decision-making and policy process, government actors need to be transparent, and to the extent possible, open with their needs, plans, agendas and with sharing of data. The ability of policy-makers and civil servants to absorb scientific data and knowledge is also crucial, requiring effective structures for learning.

Furthermore, it was recognised that the private sector's role in supporting the small-scale farming community needs to be more productive and always

ensure that their support is based on the best available science.

Data collection and data sharing mechanisms

With respect to strategies or solutions to improve data collection, sharing, analysis and use, participants noted that the following could help:

- Analyse crucial data and knowledge gaps that require further research. Collect valuable disaggregated data.
- Improve data collection, update current databases and support data pooling platforms or processes.
- Craft research policies and mechanisms for universities on how to collect, store and share data.
- Support participatory data collection approaches among different groups and users so that data is collected, owned and shared across different sectors and stakeholders.
- Support mechanisms and initiatives that link data and analysis and build on synergies. This could include efforts to consolidate collection and analysis of fragmented data.
- Democratise and visualise data so that it is available as a public good and not a limited, monetised commodity.
- Provide all actors in the farming sector open access to data and analysis.
- Establish open access repositories for quality data. Open Source agreements crafted and implemented (government, corporations, academic institutions, think tanks could all support). Donors could help to incentivize such work in South and Southeast Asia.
- Provide individual/institutional support to strengthen data management, data analysis capacity to ensure the maximum use of available data.

Mechanisms for knowledge co-generation

To increase the relevance of research, and understand the needs of policy-makers and practitioners, the scientific community needs to partner up with them and engage in the development of policies and strategies for sustainable agriculture. On the other hand, policy-makers and practitioners need to increase their interaction with researchers and seek their input. It is a non-stop process where learning and sharing knowledge around real-life issues is essential to reach effective and sustainable implementation of policies and practices. Participants consequently stressed the importance of building mechanisms for knowledge co-generation, co-design and collaboration mechanisms. Also, lessons learned from successful co-generation processes can help understand what the mechanism for knowledge co-generation can look like. This includes collaborative learning between neighbours in the regions, but also North-South and South-South dialogues. It was agreed that, despite a large diversity in practices and policy governance structures between countries and regions, comparing issues, success stories and approaches to address generic challenges would benefit science-policy-practice interactions.

The knowledge broker is vital to the science-policy interface, in South and Southeast Asia as elsewhere. The knowledge broker actively links research to the relevant stakeholders and ensures information is repackaged in a way that is contextualised and aligned with their reality, opportunities and limitations. Knowledge brokers could be public or private sector institutions, but also individuals.

During the workshop, the agricultural and forestry policy expert Ms Sengphachanh Sonethavixay from Lao PDR shared her extensive experience working as a knowledge broker between researchers and policy-makers. Ms Sonethavixay stressed that a researcher must cultivate and improve their networking skills to develop successful relationships with policy- makers and practitioners. This includes frequently sending them information, invite them for seminars, presentations, share new findings and meet them formally and informally. This is a time-consuming task, but the intermediary role of the matchmaker is becoming more and more important. If researchers do not have time to develop these essential relationship skills, they can make use of knowledge brokers to assist them in linking with policy-makers or practitioners.

Several examples of matchmaking and co-learning in the regions were described, including (i) the International Rice Research Institute (IRRI) connecting scientists, policy-makers and practitioners on sustainable intensification of rice production in the region ii), the Thailand Research Fund (TRF), a government agency supporting academic research on community development and rural issues, and iii) the “cyber extension” (Cybex) information systems on technologies, knowledge and practices run by

the Ministry of Agriculture of Indonesia, which allow farmers, practitioners and other end-users to access new research results and interact with experts.

For knowledge co-generation to happen, participants suggested following:

- Establish appropriate communication platforms that bring scientists and stakeholders together within and between countries and regions. These platforms could gather and share experiences on challenges, knowledge gaps, and ways to improve policies and practices in the regions.
- Support collaborative design of research and knowledge co-generation.
- Support existing networks and knowledge brokers in their efforts to facilitate interdisciplinary networking and research, providing government agencies, parliament bodies and practitioners with science-based information.
- Similar to the point on communication and networks above; universities, research organisations and scientists need to develop their ability to interact with society, especially through mechanisms of gathering feedback from policy-makers and practitioners, (e.g. mapping stakeholder needs, inviting government institutions, private sector, farm-based organisations, and entrepreneurs, to be part of dialogues about their research work).
- Research institutions and universities should develop data bases on key contacts (e.g. government officials, practitioners) simplifying stakeholder mapping and a continuous communication.
- Government agencies and practitioners should create formal and public mechanisms and standard procedures for soliciting input from scientists. This can support regulatory work, policy development and development of new practices.

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