

Stefanie Kaegi and Peter Schmidt

Rural Advisory Services and International Cooperation

How to reach large numbers of agricultural producers with rural advisory services – a compilation of articles with insights and innovations



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Overview of articles	Description
1. Introduction	Introduction by Stefanie Kaegi and Peter Schmidt, authors of the book Foreword by Felix Fellmann, Focal Person of the Agriculture and Food Security Network of SDC
2. Synthesis of the results: Reaching the millions - What 20 years of rural advisory services have taught us	Article on the results of the capitalisation process in the development magazine Rural 21, published in December 2015
3. The Hanoi Statement on Rural Advisory Service Systems	Synthesis paper of the SDC face-to-face workshop on rural advisory services "Reaching the Millions!", Hanoi 2015
4. Five studies to capitalise experiences of SDC financed rural advisory service programmes in Asian countries	Analyses of the following projects: • Samriddhi Local Service Provider Project, Bangladesh; 2010-2015 • Public Services for Agricultural and Rural Development Project, Vietnam; 2007-2015 • Sustainable Soil Management Project, Nepal; 1999-2014 • Laos Extension for Agriculture Project, Laos; 2001-2014 • Kyrgyz Swiss Agricultural Project, Kyrgyzstan; 1995-2010
5. Two studies to analyse rural advisory service systems in large countries	Analyses of the rural advisory service systems in India and China



INTRODUCTION



“How can Rural Advisory Services (RAS) reach millions of smallholder farmers in a poverty oriented, ecological, and financially sustainable way?” This was the starting question of a one-year learning process undertaken by the Swiss Agency for Development and Cooperation’s (SDC’s) Agriculture and Food Security Network.

The learning process began in September 2014 with a review of project documents and selected key informant interviews pertaining to long-term SDC-financed rural advisory projects in Vietnam, Laos, Bangladesh, Nepal and Kyrgyzstan. Also considered were RAS systems in China and India, where development partners play a lesser role. The book’s reflections on 20 years of experiences in Asia articulates the lessons learned and provides recommendations on how RAS systems can best reach out to large numbers of agricultural women and men producers in a poverty-oriented, ecological and financially sustainable way.

The second step was the ‘Reaching the Millions!’ workshop, which was attended by 68 RAS experts and practitioners in Hanoi in March 2015. The goal was to share, discuss, and prioritise the conclusions of the review with participants from government organisations, the private sector, NGOs and from farmer, research and international donor organisations. They discussed how rural advisory services can help large numbers of producers develop skills for improving their livelihoods and well-being, the financing of RAS, and how providers decide what services to offer and to whom.

The synthesis of the workshop discussions, group reflections and prioritisation exercises is ‘the Hanoi Statement on Rural Advisory Service Systems’. Its purpose is to increase the capacity of future systems to reach out to large numbers of agricultural producers, and to support the development of improved RAS programmes. The statement describes core aspects of RAS systems, the factors that support them and recommends how international cooperation can strengthen these systems.

Finally, the key insights were shared and further discussed at the 2015 annual conference of the Global Forum for Rural Advisory Services (GFRAS) in Kyrgyzstan, at SDC’s head office and in the development magazine Rural 21. This book is a compilation of the nine documents published during this “capitalisation” of experiences.

The authors of this volume are grateful to SDC and in particular to Felix Fellmann, focal point of the SDC “Global Programme Food Security”, for providing the mandate, resources and his thoughtful inputs into the learning process. Further, we would like to express our thanks to the participants of ‘Reaching the Millions!’ for the enriching discussions, critical inputs and fruitful reflections that led to the Hanoi Statement. We are equally thankful to the resource persons from Laos, Vietnam, Nepal, Kyrgyzstan, Bangladesh, China and India, and the colleagues from the RAS networks who gave their time for open reflections and constructive feedback.



Stefanie Kaegi



Peter Schmidt

Foreword

Reaching the Millions!

What 20 years of rural advisory services have taught us?

Dear Readers,

One of the biggest challenges in rural development and in rural advisory services (RAS) is how to reach the 500 million smallholder farmers with relevant and high quality information and services. These small farmers are important because they generate most of the rural employment and produce food for more than half of the world's population. They are also carriers of culture, values, and identity. However, on the negative side many of the smallholder farmers are living in poverty with little prospects of access to education, health and meaningful employment. Many young men and women do not see desirable life perspectives in remaining in rural areas.

To bring about a positive change and support rural transition governments, civil society, private sector and external development partners have to find ways on how to reach these millions of smallholder farmers, women, men and children.

The debate of how to reach the millions came at the right moment: Never in history were development diplomats as active as in 2015. Five important conferences have been held such as on the sustainable development agenda 2030, development finance, climate change, as well as on trade and disaster risk reduction. For the Network Agriculture and Food Security of SDC as well as for improving rural advisory services (RAS) the second Sustainable Development Goal (SDG2) summarises well what has to be achieved:

End hunger, achieve food security and improved nutrition and promote sustainable agriculture.

We learned from the Hanoi event SDG 2 can only be achieved if we reach the millions of smallholders with a pluralistic RAS system that is led by conducive policies, that is based on effective demand and is embedded in a governance system with a strong delivery capacity.

In practical terms this means that well-functioning governments and private sector have to lead the way to "the millions" supported by a productive agricultural innovation system and the civil society. Finally, well balanced and negotiated trade-offs between private- and public interests are the subtle ingredients that make the difference between "doing a job" and "doing a job well".

Felix Fellmann



Agriculture & Food Security Network
Global Program Food Security
Swiss Agency for Development and Cooperation

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WHAT 20 YEARS OF RURAL ADVISORY SERVICES HAVE TAUGHT US – A SYNTHESIS OF THE CAPITALISATION PROCESS

This summary article has been published in the Development Magazine Rural 21 in December 2015.





Reaching the millions!

What 20 years of rural advisory services have taught us

Despite a wide range of approaches and actors, advisory services still fail to reach many potential addressees. What needs to be done to ensure that as many farmers as possible benefit from these services? And above all, how can this be accomplished in a poverty-oriented, sustainable way? This article summarises a selection of what has been learnt in seven studies to capitalise experiences of rural advisory systems in Asian countries.

Current rural advisory service (RAS) systems are becoming more and more pluralistic. This is due to an increasing number of private companies involved in agricultural activities and a rising civil society providing RAS. Despite the growing number of actors, the potential for outreach of today's RAS

systems is not yet fully used. Public extension services remain the backbone of RAS systems, while private and civil RAS providers as yet only complement public services. Inter-sectorial collaboration between public, private and civil society stakeholders still rarely takes place. Thus, there is an unused potential for scale in public-private partnerships, as well as in collaboration between civil society and private agencies. This is just one of the insights gained from seven studies on advisory practice in Bangladesh, China, India, Kyrgyzstan, Laos, Nepal and Vietnam. The studies derive learning and recommendations on how RAS systems reach out to large numbers of farmers in a poverty-oriented, ecological and sustainable way.

■ Who pays for RAS – in theory and in reality?

In pluralistic RAS systems, a multitude of service providers interact with agricultural producers, and these service providers are funded from various sources. The underlying idea is that all services are paid by those users who have a particular interest in the services. RAS dealing with public interest is financed from public funds, while RAS catering to private interests is financed privately. Current RAS systems don't fully reflect such market-based ideas. Instead, in today's RAS systems,

- publicly financed RAS often serve private interests, mainly of better-off farmers;

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- overseas development assistance (ODA) tends to expect private RAS stakeholders to finance services that also serve public interests, such as catering services to small-scale farmers in remote areas;
- benefits of RAS are not reliably attributed to the services, thus agricultural producers are reluctant to pay for RAS although they derive benefits from the services.

These market dysfunctions have two implications for RAS systems. On the one hand, they induce a lack of public finances where these were needed to serve public interests, e.g. for poverty reduction or sustainable resource management. On the other hand, in mainly privately financed RAS, ecological sustainability and inclusiveness are at risk. In order for ODA interventions to be sustainable, these market challenges need to be considered when supporting RAS.

■ How can ODA boost RAS benefits for public interests?

The studies provide three recommendations for overseas development assistance to strengthen social equity and ecological sustainability of RAS systems:

Selection of project areas according to social and agro-ecological criteria. The geographic area of ODA interventions influences inclusiveness of the supported RAS system. By supporting RAS in regions with a low agricultural potential or in areas representing a high share of disadvantaged groups, ODA increases its potential to create an inclusive intervention.

Looking for the “business case” in RAS if services are supposed to be privately financed. The so-called “business case” supports value chains to which the target group can contribute and creates a value added to the produce, allowing RAS stakeholders to finance RAS.

Only if RAS effectively support both functions of the business case can they be catered to poor smallholder

producers, while being financed independently of public funds. Usually, in such market-based RAS, the definition of RAS contents is up to the market stakeholders. This renders RAS particularly prone to neglecting ecological and social priorities (e.g. focus on short-term productivity increases through high input agriculture). Hence, ODA should carefully monitor ecological effects while in parallel promoting sustainable agricultural practices and strengthening advocacy capacities of the selected target group.

Inclusion of ecological and social aspects in project planning and capacity development. ODA increases its potential to steer RAS systems’ inclusiveness by defining gender and social equity indicators right at the beginning, by monitoring them over time, and by creating affirmative action. Further, ODA can positively affect natural resource management by influencing not only the institutional setting of RAS, but also the content of RAS e.g. through well-directed capacity development of RAS providers. Similarly, capacity development of RAS providers that goes beyond technical know-how and includes e.g. advocacy capacities can positively affect inclusiveness of RAS systems.

Yet it is a major challenge for ODA to effectively support public interests in RAS. Realistic planning of ODA activities is all the more key. During planning processes, the following aspects are particularly likely to be underestimated:

- There is a trade-off between the financial sustainability of privately financed RAS, social inclusiveness and ecological sustainability of RAS. Considering this trade-off helps to plan RAS interventions realistically and to set accurate expectations. This accounts particularly for financial sustainability of RAS providers also catering to public interests.
- Up-scaling of RAS activities weakens participation of farmers and inclusiveness of RAS. Thus, monitoring and affirmative action gains in importance during up-scaling processes.

- ODA has a considerable influence on RAS contents by (co-)financing certain services and by developing capacities of RAS providers. By taking this opportunity into account, ODA makes best use of its potential to support RAS catering to sustainable resource management.

■ What are the roles of the diverse stakeholders?

In order for RAS systems to function effectively, there is a need for government, private and civil society initiatives to fulfil certain sector-specific roles.

The **government’s key responsibility** is to create an enabling environment for pluralistic and decentralised RAS. On the one hand, this comprises the support of private and civil society involvement in RAS. On the other hand, the government is accountable for an appropriate inclusion of RAS in concerned policies, as well as for decentralised planning and financing of public RAS. Besides, governments can contribute to the quality and outreach of pluralistic RAS systems by realising the following functions:

- defining RAS in public interests, and facilitating and financing its delivery;
- monitoring the quality and outreach of RAS, in particular if services are expected to cater for public interests;
- offering quality accreditation of RAS providers in order to ensure quality of services and to increase RAS providers’ potential to get mandated for service delivery.

RAS providers act as agents between farmers and institutions interested in promoting innovation, providing agricultural inputs or finances, or offering output markets. They link all relevant stakeholders in order to enhance production, innovation and marketing systems – these systems are crucial for the livelihoods of producers. The better RAS providers are connected with diverse stakeholders, the greater their potential is to offer

multifunctional services. Such multifunctional RAS are most likely to be demand-driven and financially sustainable.

Project experience shows that RAS providers face challenges or lack incentives to maintain this agent function in particular when it comes to initiating and keeping up linkages.

Agricultural producers are at least partly responsible for ensuring that RAS is demand-driven and effective. However, this is only possible in an environment that enables producers to engage in RAS planning and feedback processes. Farmers further play a key role in agricultural innovation systems: they are expected to pilot new technologies, conduct on-farm research, and spread their experiences in their neighbourhood. Agricultural producers are increasingly expected to pay for RAS. However, this is only realistic if they derive private (financial) benefits from services, and if these benefits are attributed to RAS.

The role of **private companies** which have a demand for RAS is to facilitate and finance RAS that caters to the companies' interests. The content and way of delivering these services considerably depends on the capacities of existing RAS providers, the legal framework of a country, and consumers' demand for specific products, e.g. organic or fair trade-certified products.

■ Lessons learnt for future ODA support to RAS systems

Institutionalisation of promoted RAS approaches is key in order for ODA interventions to have a sustainable impact. In this respect, the following intervention process has turned out to be successful:

- 1) Pilot RAS contents, methodologies, and institutional settings.
- 2) Integrate these pilot approaches into existing structures.
- 3) Use the pilot activities to create evidence of their benefits.
- 4) Advocate for institutionalisation and up-scaling of promoted ideas.

By working along such an institutionalisation process, ODA projects face two basic challenges:

- In the course of project implementation, ODA's focus often shifts from inclusiveness to institutionalisation. Since up-scaling of participatory approaches weakens participation of disadvantaged groups in RAS, ODA should address negative effects of up-scaling. In this respect, ODA can raise awareness among implementing partners, consequently monitor outcomes and create affirmative action. All require public funds to be implemented.
- Bilateral projects with the government as the main implementing partner face a dilemma when strengthening advocacy capacities of rural communities, while working exclusively through public institutions. In such a case, only a separate project component that is implemented independently from government structures can support the advocacy capacities of local communities, which are particularly important in the last step of the institutionalisation process.

In pluralistic RAS systems, **RAS providers are mandated** by any RAS-demanding entity to offer services. The possible mandators are the government, private or civil society stakeholders, or agricultural producers resp. their organisations. Therefore, RAS providers must be able to acquire and fulfil service mandates. Increasing RAS providers' potential to get mandated is thus an important function of ODA.

To this end, overseas development assistance had best support:

- 1) a critical mass of capacitated extension workers able to offer a certain outreach of quality RAS;
- 2) coordination of RAS providers in order to link individual extensionists to RAS-demanding entities;
- 3) mutual information on RAS demand and supply; for this, voice of RAS providers and producer organisations is key.

Capacity development of RAS providers is another major ODA contribution. While ODA is limited in time, the adaptation of RAS to on-going environmental and socio-economic changes requires continuous capacity development. Institutionalisation of capacity development is thus essential. In this regard, three approaches have turned out to be effective:

- 1) In a capacity building cascade, a small number of specialised extensionists train a large number of generalist extension staff. This approach is applied to initially or continuously train a large number of extensionists within a short period.
- 2) Extension training centres act as agents between researchers, private innovation bearers, line agencies and extensionists. They provide need-based training on extension.
- 3) Training through RAS-demanding entities: E.g. input companies, output traders, line agencies, or financial institutions train RAS providers according to their requirements. This is only possible if RAS providers are well co-ordinated and connected with demand entities.

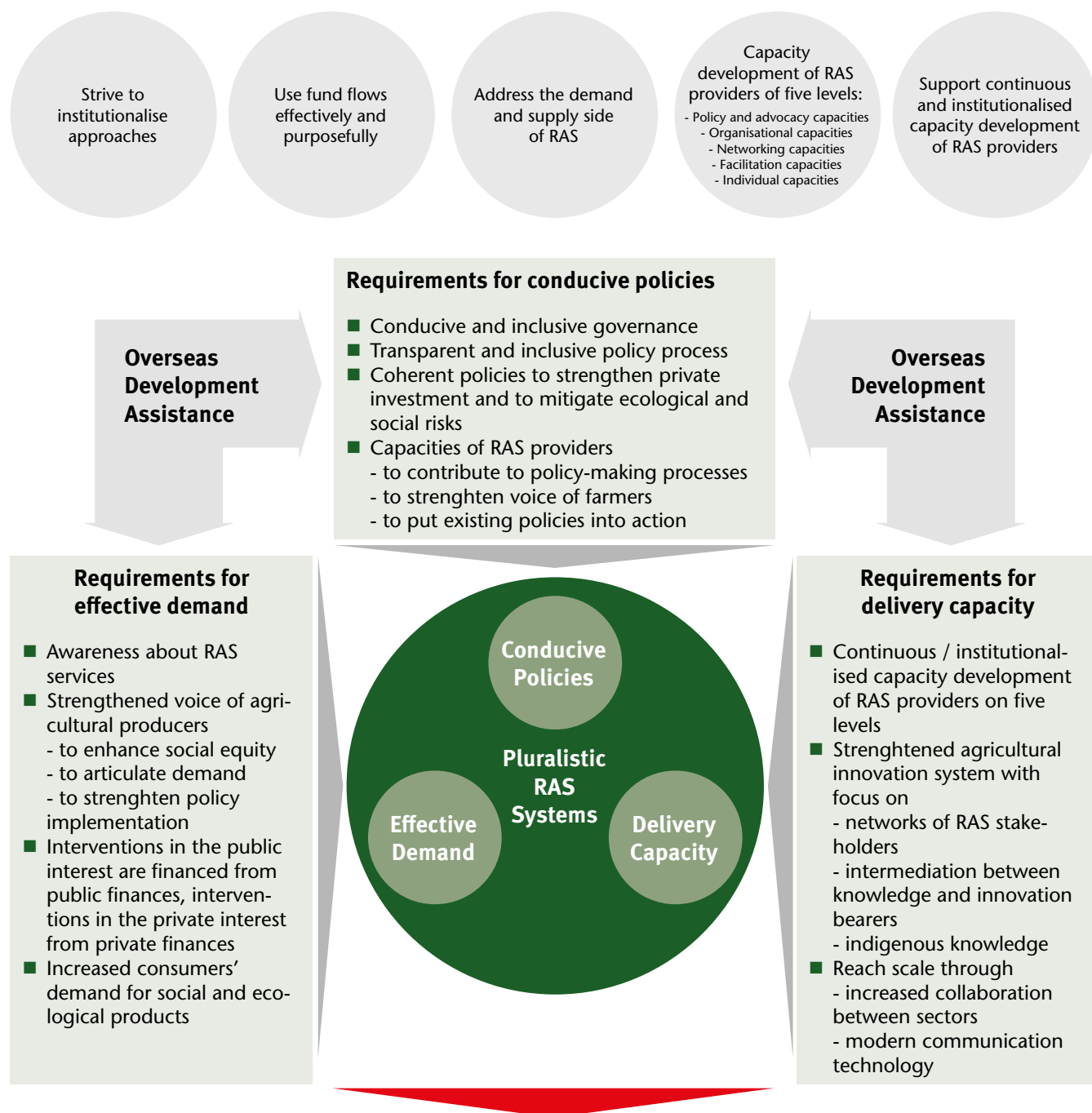
Approach 1 and 2 require continuous investments from public funds as well as the integration of extension in academic curricula.

Decentralised financing of RAS is necessary for local ownership of RAS. ODA funds are a strategic means to support decentralised financing of RAS: ODA can, on the one hand, reinforce existing decentralised fund flows, such as government block grants, by supplementing them with project funds. On the other hand, ODA can create new decentralised fund flows e.g. by supporting commune funds that are managed locally and co-fed by the government. Not only do such locally available funds strengthen local decision-making power, they also offer hands-on practice in financial management for local government structures. Such capacities are key to the further development of decentralised finance systems.

For references, see: ➤ www.rural21.com

The Hanoi Statement on Rural Advisory Services

The studies summarised in this article served as a basis for discussion on RAS systems at a face to face workshop of the Agriculture and Food Security Network of Swiss Development Cooperation (SDC) on rural advisory services in Vietnam in March 2015. There, 68 experts on rural advisory got together to prioritise core aspects of RAS systems and to provide recommendations for future ODA interventions. The result is summarised in the Hanoi Statement on Rural Advisory Service Systems, from which a core figure is shown below.



“Reaching the millions” in a poverty-oriented, ecological, and sustainable way

The full Hanoi statement as well as the seven studies to capitalise experiences of SDC financed RAS projects and country RAS systems are available at the SDC Agriculture and Food Security Network:

www.shareweb.ch/site/Agriculture-and-Food-Security/focus-areas-overview/ras-and-agricultural-education

THE HANOI STATEMENT ON RURAL ADVISORY SERVICE SYSTEMS

Developed and endorsed by 68 RAS experts and practitioners in Hanoi, 2015





THE HANOI STATEMENT ON RURAL ADVISORY SERVICE SYSTEMS

“Reaching the millions” with rural advisory services in a poverty oriented, ecological and sustainable way

A synthesis of the SDC Face to Face Workshop on Rural Advisory Services (RAS) “Reaching the Millions”, 2–7 March 2015, Hanoi, Vietnam. Endorsed by 68 RAS experts and practitioners that participated at the “Reaching the Millions” workshop. Supported by the Agriculture & Food Security Network of the Swiss Agency for Development and Cooperation in collaboration with HELVETAS Swiss Intercooperation, GFRAS, APIRAS, and AESA.



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Endorsement of the Hanoi Statement, March 2015, Vietnam

IMPRESSUM

This statement was developed and endorsed by 68 RAS experts and practitioners in the frame of the SDC Face to Face Workshop on Rural Advisory Services "Reaching the Millions!", in Hanoi, 2015.

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DEFINITION OF TERMS

RAS consist of "all the different activities that provide the information and services needed and demanded by [agricultural producers] and other actors in rural settings to assist them in developing their own technical, organisational, and management skills and practices so as to improve their livelihoods and well-being".

RAS providers are institutions that offer one or several rural advisory services as defined above. RAS providers are typically government extension offices, producer and market organisations, private service providers including input and output companies, civil society organisations, and research institutions.

A. THE HANOI STATEMENT

The Hanoi statement was elaborated in the frame of the SDC face-to-face workshop “Reaching the Millions”, in March 2015 in Hanoi. It is the synthesis of the discussions, intensive group work and prioritisation exercises, which took place during this six-daylong learning event. The starting point for these discussions was the results of seven studies on RAS projects and country RAS systems in Asia, as well as the experience of the 68 gathered RAS experts.

Current RAS systems are **pluralistic**: A multitude of service providers interacts with agricultural producers, and these service providers are funded from various sources. **The purpose of the Hanoi statement** is to increase the capacity of future pluralistic RAS systems to reach out to **a large number of agricultural producers** (“Reaching the Millions”) in a poverty oriented, ecological, and sustainable way. To this aim, the statement describes identified core aspects of RAS systems and defines the factors that are supporting them. Based on the core aspects, it provides recommendations on how development cooperation can contribute to strengthen RAS systems.

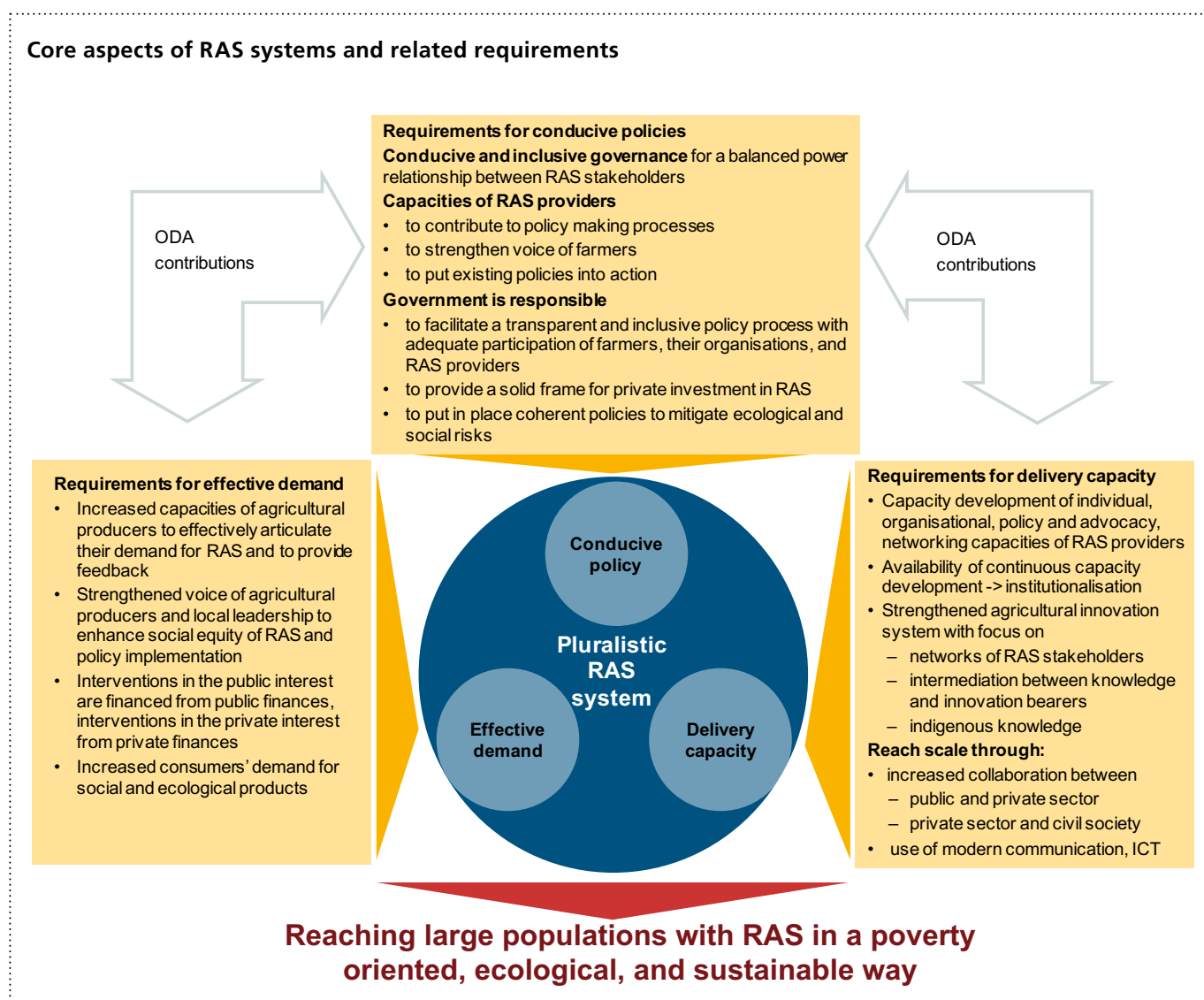
The figures below show the Hanoi statement, whereas the subsequent text provides related specifications.

The first figure’s centre depicts three essential core aspects of RAS systems. These are:

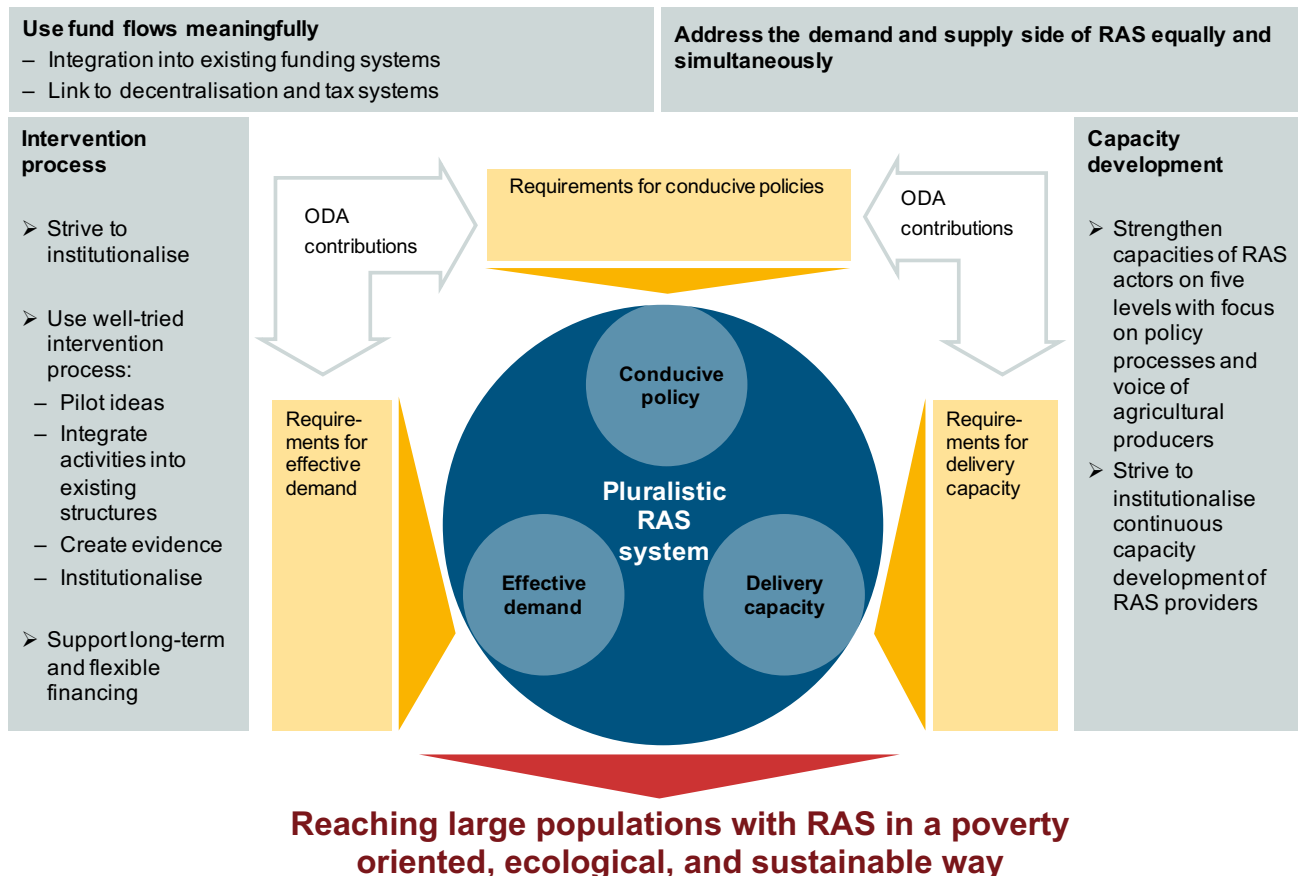
1. conducive policies,
2. delivery capacities of RAS providers,
3. effective demand for RAS from private and public sector, as well as from farmers and their organisations.

In order that RAS systems reach out to **a large number of agricultural producers** in a poverty oriented, ecological and sustainable way, certain requirements need to be fulfilled. The surrounding boxes show these requirements.

The second figure (next page) summarises the elaborated recommendations for development cooperation projects and donors.



Recommendations for Overseas Development Assistance (ODA)



B. CORE ASPECTS OF RAS SYSTEMS AND RELATED REQUIREMENTS

1. CONDUCIVE POLICIES

Poverty-oriented and ecologically sustainable RAS systems require a coherent set of supportive policies. They provide the normative frame for an effective response to the RAS demand of diverse stakeholders, and underpin the delivery capacity of the RAS system.

Policies must be conducive to decentralised coordinated RAS planning and financing, and to capacity development of RAS providers (see Delivery capacity). Furthermore, policies must mitigate ecological and social risks related to RAS delivery that might otherwise serve exclusively private interests (see Effective Demand).

Conductive and inclusive governance is the basis for a balanced power relationship between RAS stakeholders, which is necessary for policy processes that respond to the requirements of all stakeholders of a pluralistic RAS system, in particular those of disadvantaged groups. Capacities of agricultural producers and local RAS providers to contribute to policy processes often remain weak. Therefore, it is

crucial that **RAS providers are capable to contribute to policy making processes, to strengthen the voice of agricultural producers, and to put existing policies into action.**

Governments are responsible to facilitate transparent and inclusive processes with adequate participation of agricultural producers, their organisations, and RAS providers, in order to develop coherent policies and to ensure their implementation. Whether and how governments assume this responsibility depends on their resources, on the stability of the political context, and on the abovementioned power relationship among RAS stakeholders.

Among policy related issues, three are particularly important for the functioning of RAS systems:

1. Decentralised planning and financing of RAS:

Decentralised public funding and local development plans are crucial to enhance agricultural producers' participation in RAS processes. Policies should thus provide a regulatory framework for local governments to allocate public funds for RAS delivery, be they funds from higher administrative levels or funds from local tax revenue systems. Furthermore, policies should provide a framework for dovetailing local and national development

planning, which allows agricultural producers to articulate their RAS demands in an effective way.

2. Institutionalised capacity development of RAS providers:

Continuous capacity development of RAS providers is key for the quality of RAS. Policies must provide the regulatory framework for (participatory) curricula development based on needs assessments, continuous in-service education, quality assurance and accreditation of RAS providers.

3. Solid frame for private investments and protection of public interests:

Private investments are necessary for reaching out to large numbers of farmers with RAS. However, privately financed RAS is likely to neglect public interests such as ecological sustainability or gender and social equity. These risks are most likely to arise in the context of embedded services or contract farming arrangements. Hence, policies have basically two functions: to develop a solid frame for private investments, and to take care of the public interests, respectively mitigate ecological and social risks of RAS that focus on private interests.

2. EFFECTIVE DEMAND

Present country RAS systems are pluralistic: Diverse stakeholders demand and finance various RAS providers. Typically, governments and donors demand RAS to serve a public interest in line with national agricultural development strategies; private companies want RAS to generate economic benefits; civil society organisations often pursue RAS for social or environmental objectives; and agricultural producers expect from RAS to improve their livelihoods.

The cumulative demand of all stakeholders is the driving force for a country RAS system. In order for the systems, which are often loosely coordinated, to reach out to large populations in a poverty oriented and ecological way, the following three conditions must be met:

1. Interventions in the public interest are financed from public sources.

Poverty alleviation and ecological sustainability are public interests, which may require different services than short-term private interests. Examples for RAS that is primarily in the public interest are:

- RAS delivery to agricultural producers living in remote areas with low agricultural potential, where the private sector does not intervene.
- RAS delivery to smallholders that do not have sufficient resources (land, knowledge, financial capital, mobility) to collaborate with the private sector.
- RAS delivery to reduce poverty and to increase food security of local communities.

- RAS delivery to support sustainable natural resource management, to maintain biodiversity and adaptation to climate change.

- RAS delivery to maintain scattered settlement structures and to protect cultural heritage.

Without allocation of public resources, these services are either not offered or don't reach scale.

2. Interventions in the private interest are financed from private sources.

- **Private companies' demand for RAS:** Such privately financed RAS are likely to neglect public interests. Therefore, strong policies and strengthened voice of agricultural producers are needed to mitigate ecological and social risks.

- **Consumers' demand for social and ecological products:** A complementary way to assure social equity and ecologically sound RAS is the power of united consumers who demand and are ready to pay for ecologically sustainable and fairly produced and traded products.

3. Agricultural producers are aware about RAS and able to articulate their demand for RAS:

- Independently of who pays for RAS, strengthened voice of RAS users and strong local leadership are required to enhance social equity, and to foster implementation of conducive policies. Therefore, agricultural producers' capacities to articulate their demand for RAS, to provide feedback and to advocate for policies and their implementation are key.
- Information and awareness about potential RAS are crucial for agricultural producers to articulate their demand for RAS.

3. DELIVERY CAPACITY

The delivery capacity of a RAS system encompasses three aspects, namely 1) to provide effective services, 2) in an efficient manner and 3) to reach scale.

Capacities of RAS providers to offer services

Capacities of RAS providers are one, if not the key element of a RAS system. Today's "new extensionists" are expected to offer a diversity of services. These services range from technology development and transfer to facilitation of market access or financial services, and include advocacy and networking activities.

RAS providers require the following – equally important – capacities.

- **Individual capacities:** RAS content, RAS methods, personal attitudes
- **Facilitation capacities:** e.g. linking agricultural producers to market actors or to financial services
- **Organisational capacity:** e.g. management and financial capacities
- **Policy and advocacy capacity:** to contribute to policy making processes, to strengthen voice of agricultural producers, and to put existing policies into action
- **Networking capacity:** to become an effective member of the agricultural innovation system.

In an ever-changing context, capacity development is a continuous process, which needs to be institutionalised. To this end, two avenues are most important: 1) demand based and regularly reviewed curricula, which are embedded into training and education institutions, and 2) sustainable financing mechanisms.

Source of finances and RAS providers in pluralistic RAS systems

Source of finances for services	Service Providers					
	Public Sector	Private Sector			Civil Society	
		Input Suppliers	Processors / Traders	RAS providers	NGO	Farmer Organisations
Public Donors	Public Extension System		Potential			
Private Companies		Private Extension System (Embedded Services / Contract Farming)				
Farmers						
NGOs			Potential		NGO / FO hired as Service Providers	
Farmer Org.						

Such capacity development significantly relies on innovations, which are developed in so-called agricultural innovation systems. There are three critical issues related to agricultural innovation systems:

- Agricultural innovation systems operate through networks and inter-relations among RAS providers, agricultural producers, research institutions, agribusinesses and other knowledge and innovation bearers. Thus, strong networks and networking capacities or RAS stakeholders are required to enhance agricultural innovation.
- Intermediation between innovation bearers is a significant source of innovation and an important role of RAS providers. Particularly, intermediation between research and agricultural producers often remains weak and insufficiently institutionalised.
- Indigenous knowledge and agricultural producers' perspectives are often neglected but are considerable sources of innovation.

Reaching scale for RAS delivery

In most countries, public RAS providers are still the backbone of the RAS system and the guarantor for coverage and equity. The newly developing pluralistic RAS systems contain the potential for increasing efficiency, effectiveness and scale of the country RAS systems. However, this potential is generally not yet fully exploited.

A particular potential for scale and social orientation is seen in collaboration between:

- Private and public sector
- Private sector and civil society (including producer organisations)

Furthermore, communication platforms that are reaching large populations, such as ICT and mass media are developing fast and offer additional potential that is not yet fully used.

C. RECOMMENDATIONS FOR DONOR AND PROJECT INTERVENTIONS

Overseas Development Assistance (ODA) can best contribute to the functioning of the above-described core aspects of RAS systems by paying particular attention to the following three issues.

4. INTERVENTION PROCESS

Strive to institutionalise

ODA interventions are limited in time and resources. Thus, realistic planning needs to anticipate phasing out from the beginning. By institutionalising successful contributions, such as promising RAS delivery mechanisms, effective RAS methods, relevant RAS contents, as well as processes that strengthen the demand side of RAS (with focus on agricultural producers), ODA projects considerably enhance the probability to sustainable improvements in RAS systems.

A well-tried and recommended intervention process leading to institutionalisation is given below:

- 1. Pilot ideas** with the aim to experiment, learn, and institutionalise. This accounts for all RAS related activities, including financing mechanisms, delivery methods, contents, demand articulation, or capacity development, networking, etc.
- 2. Integrate RAS activities into existing structures – also pilot activities.** Implementing project activities through existing structures that function without ODA support allows for creating realistic evidence of the pilot ideas, and enables possible up-scaling for which these structures are key.
- 3. Create evidence.** Pilot activities are a considerable means to create evidence of the benefits of the tested or promoted idea. Experiences gained from pilot activities are the basis for an evidence-based policy dialogue.
- 4. Institutionalise.**

Such institutionalisation processes are only possible through long-term interventions that encourage flexible reaction according to trial and error, adaptation to changing contexts, and spontaneous use of upcoming opportunities. In short, **long-term and flexible financing is key for institutionalisation processes.**

WATCH OUT!

- There is a trade-off between quality in project intervention processes and up-scaling.
- Donors' principles do not always tally with governments', people's or private companies' priorities.

Use fund flows effectively

Fund flows are the trigger to influence decision power within a RAS system. Right from the beginning, they must be designed consciously and purposefully:

- 1) ODA funds should be used to serve public interests.
- 2) If fund flows should be adopted by RAS actors in the long run, the following aspects deserve attention:

- **Integrate project funds into existing funding systems.** This is the prerequisite to institutionalise fund flows for RAS in the long run.
- **Link project funding to decentralisation of public funds and tax systems.** Decentralised funding of RAS increases the voice of agricultural producers and local leadership with respect to RAS planning and delivery. By using ODA funds to reinforce or create decentralised funding systems, development actors effectively use their potential to increase local availability and management of funds.

WATCH OUT!

- Fund flows are only institutionalised successfully if they reflect the effective demand for RAS.
- Effective decentralisation of public finances requires adequate capacities of local governments to manage public funds and ultimately decentralised fiscal systems.
- Without putting special attention to service market systems, ODA risks to distort service markets.

¹ Reference: The "New Extensionist": Roles, Strategies, and Capacities to Strengthen Extension and Advisory Services. Position Paper of the Global Forum for Rural Advisory Services. November 2012.

5. DEMAND AND SUPPLY SIDE INTERVENTION

Usually, RAS project interventions aim at strengthening the supply side of RAS. Looking at the above-mentioned core aspects of RAS, a strong demand side is equally important for a RAS system.

Accordingly, ODA needs to take into account the supply and demand side of RAS equally, and address both sides in parallel.

Since agricultural producers are generally the weakest element of the demand side, interventions at the demand side should focus on them. In order to become an effective part of the demand side, agricultural producers and their organisations need capacities

- to participate in RAS planning and to provide feedback
- to raise voice to enhance social equity of RAS delivery
- to foster policy implementation.

Last but not least, **sensitising consumers** to the benefits of social and ecological products is a significant means to strengthen private sector involvement in RAS that benefits to poor agricultural producers in an ecological way.

WATCH OUT!

Strengthening the above-mentioned capacities of farmers is an element of RAS, and could therefore be carried out by RAS providers. However, in the absence of good local governance, RAS providers may not see this as part of their role. In this case, ODA interventions to strengthen the demand-side must be independent from those on the supply side.

6. CAPACITY DEVELOPMENT OF RAS PROVIDERS

Access to knowledge and innovation

ODA can best support access to knowledge and innovation of RAS stakeholders by

- Working towards institutionalised capacity development by supporting the development and implementation of curricula and relevant policies
- Institutionalising financing mechanisms for capacity development
- Strengthening networks of RAS stakeholders and support alternative learning approaches

WATCH OUT!

- Short-term ODA interventions tend to neglect institutionalisation of capacity development of RAS stakeholders, therefore a long-term perspective is required.
- With capacity development activities, ODA interventions significantly contribute to the content of future RAS and influence the promoted agricultural practices. This needs to be taken into account when planning capacity development.

Capacity development on five levels

Supporting capacity development of RAS providers is a typical and meaningful ODA contribution to RAS systems. The changing paradigm away from simple technology transfer towards participatory holistic RAS services broadens the requirements for capacity development. Projects and donors best respond to the requirements of today's "new extensionists" by including the five above-mentioned levels of capacity development into their activities.

Since policies set the normative framework for RAS activities, the voice of agricultural producers and RAS stakeholders in policy processes is key. Yet, such policy and advocacy capacities of local RAS actors and agricultural producers remain weak. Development projects and donors often successfully contribute to policy processes but they frequently neglect to strengthen the ability of local stakeholder to assume this role in the long run. Hence, capacity development activities should give a particular focus on the capacities of RAS providers to contribute to policy processes and to strengthen voice of agricultural producers.

FIVE STUDIES TO CAPITALISE EXPERIENCES OF RURAL ADVISORY SERVICE PROJECTS

- CAPEX Study 1: Public Services for Agricultural and Rural Development Project, Vietnam; 2007-2015
- CAPEX Study 2: Samriddhi Local Service Provider Project, Bangladesh; 2010-2015
- CAPEX Study 4: Sustainable Soil Management Project, Nepal; 1999-2014
- CAPEX Study 3: Laos Extension for Agriculture Project, Laos; 2001-2014
- CAPEX Study 5: Kyrgyz Swiss Agricultural Project, Kyrgyzstan; 1995-2010



Introduction and Methodology

The studies below build together a broader analysis to capitalise experiences (CAPEX) in SDC financed RAS projects and in large scale country RAS systems in general. The goal is to derive learning on how these projects and country RAS systems reached out with RAS to a large number of farmers in a poverty oriented, ecological and sustainable way.

The following studies are part of the broader learning exercise:

- CAPEX RAS: Public Service for Agriculture and Rural Development Programme – Vietnam
- CAPEX RAS: Sustainable Soil Management Programme – Nepal
- CAPEX RAS: Samriddhi Local Service Provision – Bangladesh
- CAPEX RAS: Laos Extension for Agriculture Programme – Laos
- CAPEX RAS: Kyrgyz-Swiss Agricultural Project – Kyrgyzstan
- CAPEX RAS: Country RAS system in India
- CAPEX RAS: Country RAS system in China

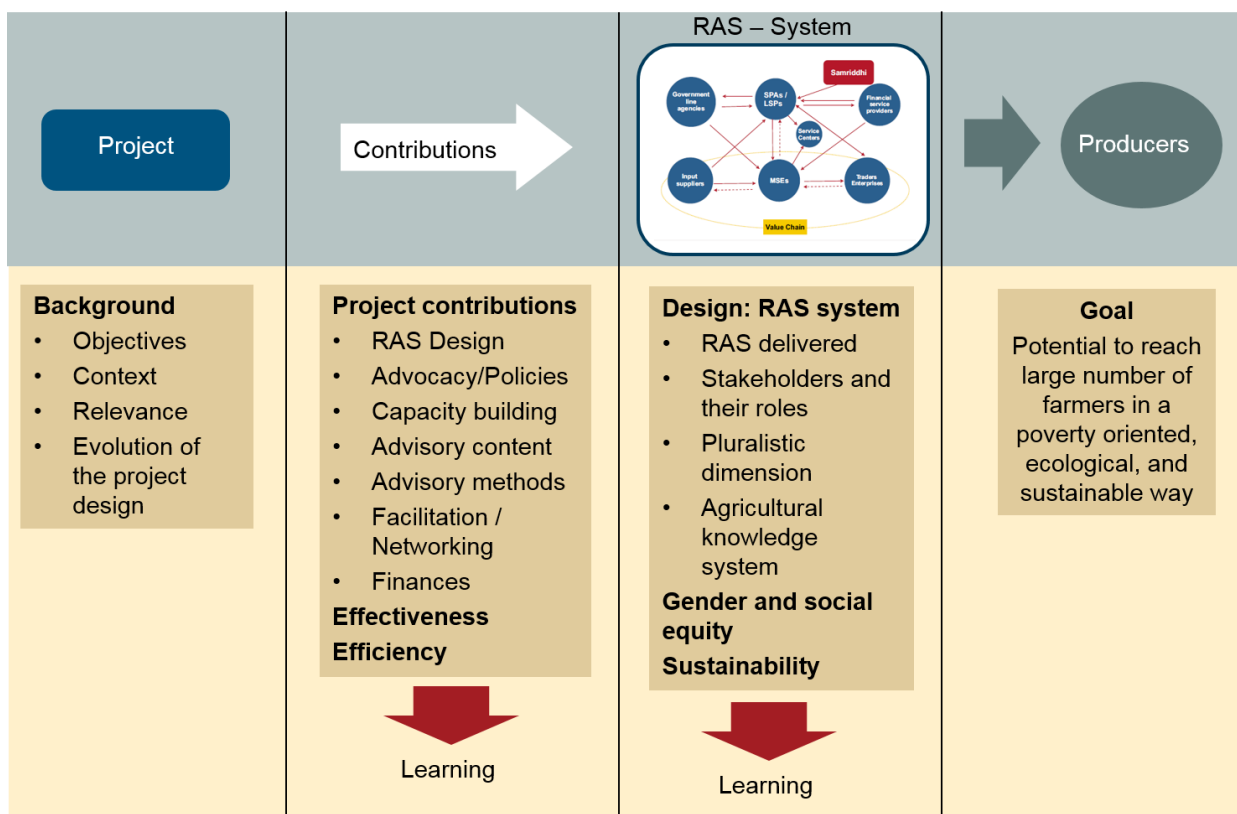
All analyses are desk studies based on project reports, thematic publications, and interviews with one to four resource persons. The studies follow the same research approach:

In a first step, each study describes the project background and analyses the project's contributions to the RAS system, in particular their effectiveness and efficiency. In a second step, the studies examine effectiveness, sustainability, and inclusiveness of the supported RAS system by analysing the effects on agricultural producers. In the case of the country RAS system analysis, the studies focus only on the RAS systems and their effectiveness.

The goal of the studies is to search for learning and innovation on

- 1) how RAS systems best reach out to large numbers of farmers in a poverty oriented, ecological, and sustainable way,
- 2) and how development actors can support such RAS systems.

Research framework for the analysis of RAS projects





Stefanie Kaegi 05.05.2015

CAPEX Study 1: Capitalisation of Experiences in Samriddhi Private Rural Service Provision System; Bangladesh: 2010 - 2015



Schweizerische Eidgenossenschaft
Confédération suisse
Confederazione Svizzera
Confederaziun svizra

Federal Department of Foreign Affairs FDFA
Swiss Agency for Development and Cooperation SDC
Global Programme Food Security



A+FS Network
www.sdc-foodsecurity.ch
With family farmers towards
a world without hunger



HELVETAS
Swiss Intercooperation

Summary

This study capitalises the experiences of the Samriddhi Local Service Provider Project with the goal to derive learning from the project's successes and challenges in supporting the rural advisory service (RAS) system. The study offers an overview of the agricultural extension system before, during, and after the project intervention and analyses in what way Samriddhi contributed to the current country RAS system.

The bilateral project and its precedents projects "Livelihoods, Empowerment and Agroforestry" (LEAF) and "Sustainable Access to Agroforestry, Knowledge, Technology and Information" (SAAKTI) have been funded by the Swiss Agency for Development and Cooperation (SDC) with 27.5 million Swiss Francs (CHF 37 / farmer provided with RAS) and implemented by HELVETAS Swiss Intercooperation from 2004 to 2015.

Major achievements of Samriddhi

- 750'000 farmers accessed RAS that was provided by almost 5000 local service providers (LSP).
- Most of the RAS users live in remote areas; more than 60% are poor farmers or/and women; 54% are women.
- Development of 12 value chains (VC):
 - Six VC supported the outreach of RAS to poor farmers and women farmers. These include medicinal plants, chicken and goat rearing, dairy production, plants and jute crafts.
 - Nine VC added value to the produce through reduced transaction costs and increased product quality.
- Local service centres have been established and now serve as initial contact points for local producers and as collecting centres for smallholders' produce.
- Over 100 private companies employ LSPs to sell products, to organise sales, and to provide RAS.
- Three government line agencies employ LSPs with the goal complement their public extension services.

Derived learning

- Being local allows LSPs to deliver service at the doorstep in an efficient way.
- The assumption that "Farmers pay for RAS if services are accessible, affordable, holistic, and thus adding a value to the agricultural produce" has been proofed as realistic.
- Involvement of producer groups in RAS planning increases RAS' potential of being demand-driven and strengthens producers' readiness to pay for the services.
- The integration of sustainable agricultural practices into M4P RAS projects requires further elaboration: Samriddhi let the decision about which agricultural practices should be promoted up to market actors and thus had limited influence on RAS contents. The resulting RAS content risks to put sustainable agricultural production systems at risk.
- Networks of producer group are often a precondition for small holder producers to access financial products.
- Working as agents for financial services, inputs and output markets, LSPs are able to offer holistic services. These are more likely to be paid by a demand entity.
- The complementation of public extension services with LSPs increases the outreach and efficiency of the public extension system.
- The government can support private RAS initiative by issuing accreditations that approve the quality of service providers.

Major challenges

- Private interest don't always tally public interests, such as social inclusion and ecological sustainability. This put public interests at risks in mainly privately financed RAS systems.
- Working only on value chains with a considerable potential to generate a value added to the produce is a consequence of the M4P approach. This may exclude the promotion of pro poor RAS that provides only a limited value added. Such RAS might require public finances in the long run.

Acknowledgement

I am grateful to the Swiss Agency for Development and Cooperation, in particular to Felix Fellmann, Focal Point of the Global Programme Food Security, for providing the mandate, the resources and thoughtful inputs to this capitalisation study. I would like to express my thanks to Peter Schmidt for the inspiring discussions and the valuable comments on the draft report. I am equally thankful to the resource persons who gave me their time for open reflections and feedback, namely my colleagues Zenebe Uruguchi, Martin Dietz, Gias Md. Talukder, and Michael Blaser.

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List of abbreviations

DAE	Department of Agricultural Extension
DLS	Department of Livestock Services
DoF	Department of Fisheries
GLA	Government Line Agency
LEAF	Livelihoods, Empowerment and Agroforestry
LSP	Local Service Provider
MSE	Micro and Small Enterprise
NAEP	New Agricultural Extension Policy
NGO	Non Governmental Organisation
NGO	Non-Governmental Organisation
PSA	Private Sector Agencies
SAAKTI	Sustainable Access to Agroforestry, Knowledge, Technology and Information
SDC	Swiss Agency for Development and Cooperation
SPA	Service Provider's Association
VC	Value Chain

1. Introduction

The study searches for learning and innovation on how to reach large numbers of farmers with RAS on the example of Samriddhi project. In a first step, it describes Samriddhi's contributions to the RAS system, and in a second step, it analyses the effectiveness, sustainability and inclusiveness of the established RAS system.

Context of Samriddhi

Bangladesh is characterised by one of the world's highest population density (156 million citizens; 1203 persons per sq. km)¹. The agricultural extension landscape in Bangladesh is manifold: beside government agencies, also numerous NGOs, commercial traders and input suppliers provide extension services to farmers (Karim: 2009). Access to extension services, however, remains weak, and farmers living in remote areas face challenges in accessing suitable RAS. As a result, general competition among RAS providers remains low (Blaser: 2013).

RAS system before the Samriddhi intervention

Already before the project intervention, the RAS system in Samriddhi's project area was pluralistic:

- A governmental extension system was in place, which due to lack of public resources did not reach out to many farmers.
- Many NGOs directly provided RAS to farmers.
- Local Service Providers (LSP) provided services that were subsidised by the LEAF project.
- Local NGOs facilitated participation of farmers in commune planning processes (including RAS) through the strengthening of ward platforms.
- The SDC Katalyst project facilitated linkages between private sector agencies, government extension offices and farmer groups.

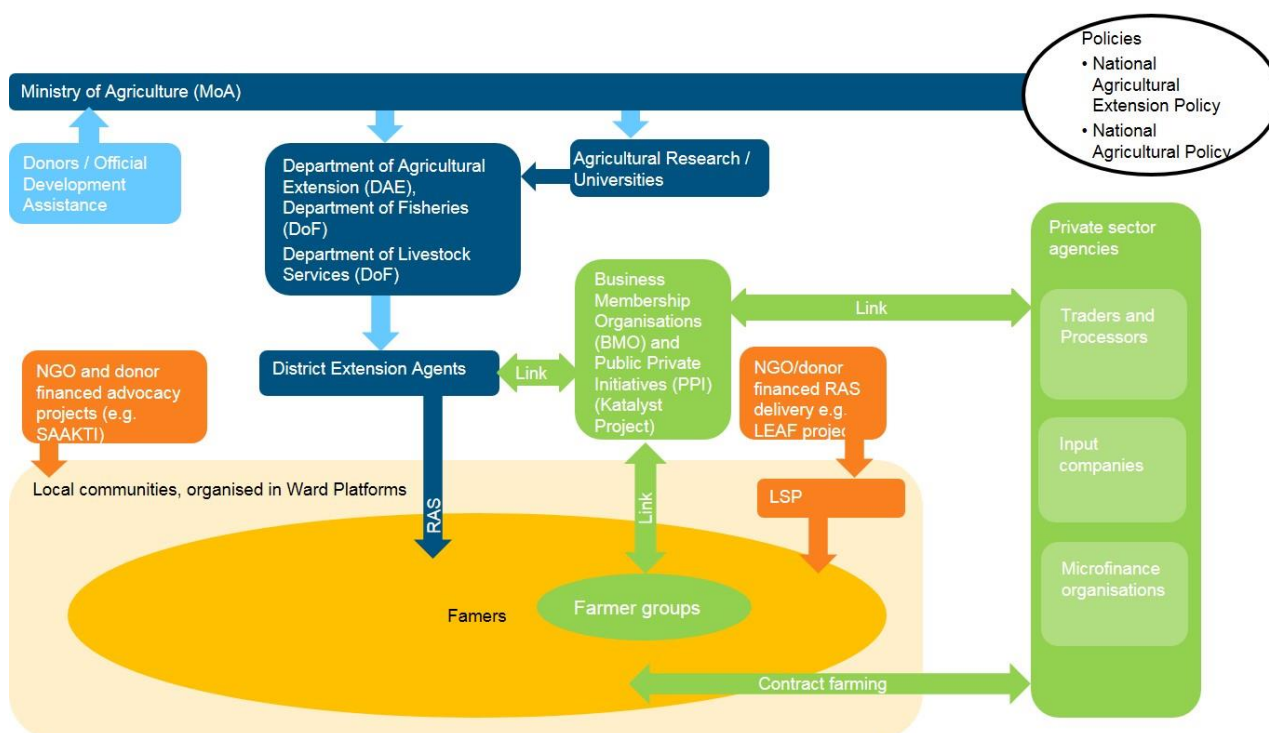


Figure 1: RAS system in Samriddhi project area before Samriddhi's interventions. Blue: Public RAS system; green: private RAS system; orange: contributions of donors and NGOs, yellow: local community (Author's own figure)

¹ Source: <http://data.worldbank.org/indicator/EN.POP.DNST>

Project rational

The Samriddhi project originated out of a merger of two predecessor projects SAAKTI and LEAF that were both founded in 2004 (Dietz et al.: 2013). While SAAKTI initiated the idea of private local agricultural extension service provision, LEAF focused on strengthening community organisations and their advocacy capacity (MTR: LEAF/SAAKTI: 2009).

Samriddhi focuses on RAS provision and is based on the impact logic that

- (i) if public and private services for business development are accessible, poor people are empowered and capacitated to access these services;
- (ii) if an enabling environment for pro-poor economic growth exists, poor people can generate additional income and overcome their poverty situation in a sustainable manner (Dietz et al. 2013).

The project goal is “to contribute to sustainable well-being and resilience of poor and extreme poor households of Rajshahi Division and Sunamganj District through economic empowerment” (ProDoc Samriddhi: 2010). To this end, Samriddhi set the following objectives:

- (i) to strengthen the competitiveness of rural products and value addition at producers’ level;
- (ii) to enhance the capacities of rural Micro and Small Enterprises (MSE; these are farmer groups having a joint business plan) for business management and for acquisition of financial capital (Helvetas: 2014).

Samriddhi bases its intervention on the M4P approach, thus strives to sustainably establish linkages between the diverse market actors, while focusing on poor producers and women. With this, Samriddhi strives to stimulate improvements in market systems.

Samriddhi and its precedent projects LEAF and SAAKTI have been funded by SDC with a total of CHF 23 million. The Samriddhi project phase has been extended and lasted from 2010 to 2015.

Relevance of Samriddhi interventions

Despite a wide range of extension service providers in the project area, a large share of the rural population still don’t have access to RAS, particularly poor agricultural producers (Dietz et al.:2013). Limited access to information, output markets for agricultural products, and financial services constrains farmers’ ability to increase farm productivity. This, however, is the basis to enhance food security in the country. Further, it has been shown that if agricultural services are available, farmers make use and sometimes even pay for such services (Blaser: 2013). Against this backdrop, Samriddhi’s intervention aiming at improving access and availability of RAS through the development of local service providers is considered relevant.

2. Samriddhi project contributions to the RAS System

This chapter analyses Samriddhi’s contributions to the RAS system, while differentiating between contributions to the supply side and the demand side of RAS.

In the course of the project, the role of Samriddhi considerably changed: Previously, the project directly supported service delivery through NGOs, whereas currently, the project follows an M4P approach and exclusively facilitates linkages between the RAS actors.

Before the merger of LEAF and SAAKTI, LEAF focused on the demand side of RAS by strengthening the producers’ organisational capacity and advocacy work, whereas SAAKTI contributed to the supply-side of RAS by improving the service providers’ capacities to provide quality services.

After the merger of LEAF and SAAKTI, demand-side contributions were slowly phased out. The reason for Samriddhi’s growing focus on the supply side of RAS lies in two assumptions:

Samriddhi assumes that RAS is able to evoke a positive impact on farmers’ income if

- 1) RAS are holistic,
- 2) RAS create a value added to agricultural products,
- 3) RAS are used by farmers.

Samriddhi assumes that producers use services

- 1) if services are affordable, accessible, and have a direct positive impact on their income,
- 2) if producers attribute the positive development of farm income to RAS. (Dietz: 2014)

Consequently, the subsequently described project contributions strive to enhance the capacity of service providers to provide holistic, affordable, and accessible services that create a value added to agricultural products and do not focus specifically on the demand side of RAS.

2.1. Contributions to the RAS design

A major contribution of Samriddhi is the development and establishment of a RAS design that combines the following ideas:

- **Connecting diverse value chain actors** to the RAS system through Local Service Providers (LSP): LSPs work as key agents between MSEs, financial service providers, input suppliers, processors, and traders. As a result, producers get required information, inputs, and other services from only one person.
- **Service provision at the doorstep** through LSPs: Samriddhi supports service provision through extensionists living in the neighbourhood of the producers. This increases availability, accessibility, and affordability of RAS – also for producers living in remote areas.
- **Service and collection centres** that are led by Service Providers' Associations (SPA) or other market actors enhance farmers' access to information and reduce transaction costs through bulk trade.
- **Reduction of transaction costs through MSEs** that operate as production entities and sale bulk produce. This enhances the marketability of smallholders' produce by reducing transaction costs for buyers, which would not enter into market relationships with individual smallholders.

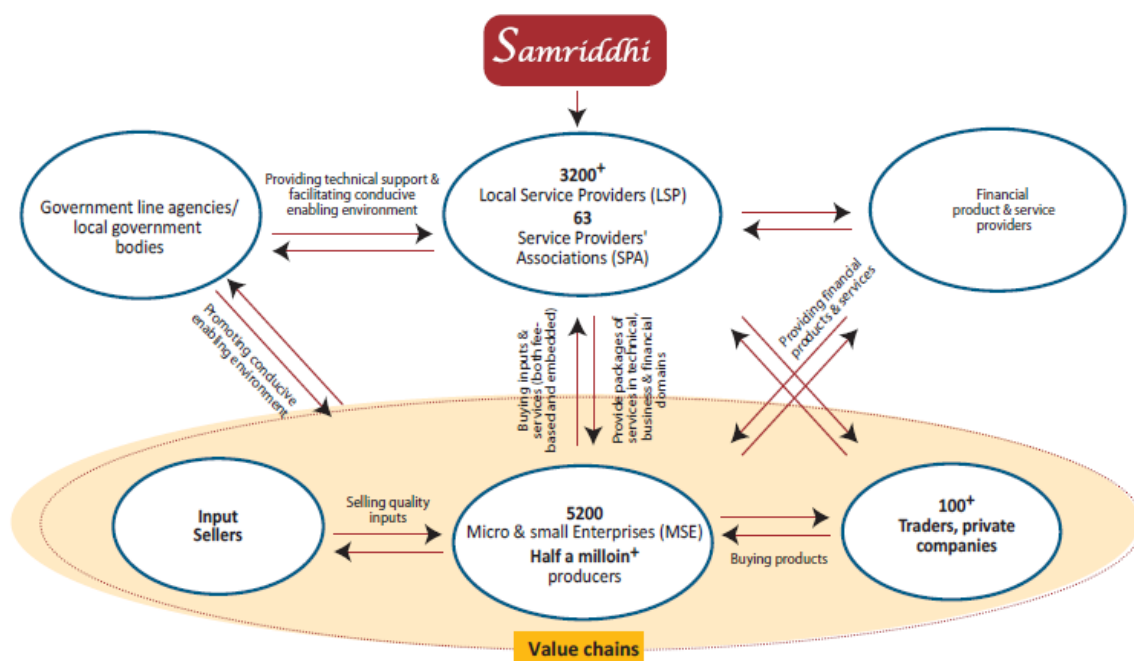


Figure 2: Samriddhi market system, its stakeholders and linkages (Hossain et. al: 2014)

2.2. Contributions to extension policies

The project operates in the policy framework of the National Agricultural Extension Policy (NAEP: 2012) that was formulated by the Department of Agricultural Extension. The NAEP supports a pluralistic country RAS system, and in particular the LSP approach proposed by the project. Consequently, Samriddhi focuses on the implementation of the available agricultural policy and thus not aim to further involve in policy development (Talukder: 2014).

2.3. Contributions to advocacy capacity at national and local level

Supply side intervention

In order to intensify research, knowledge exchange, and networking between stakeholders involved in rural poverty reduction, Samriddhi established a Project Support and Management Unit (PSMU). The PSMU was located at capital level in order to ensure proximity to decision makers of government and non-government organisations. The PSMU aims at increasing the visibility and publicity of the Samriddhi RAS system and to foster the replication of the LSP approach. Therefore, the PSMU provides regular inputs in national and international workshops.

As a result of Samriddhi's publicity work, an increasing number of RAS stakeholders show interest in the LSP approach² and some already have adopted it (Uraguchi: 2014b). Yet the district SPAs, however, seem not capacitated to take over the advocacy activities that have been implemented by the project.

Demand side intervention

Between 2010 and 2013, Samriddhi spent CHF 1.3 million (approx. 16% of total project budget) on capacity building and coordination of 1899 Ward Platforms (WP). WPs are institutions that represent communities in local government and advocate for their interests. WPs evolved from previous cluster platforms and community based organisations that were supported by SAAKTI. Samriddhi contracted around 18 local NGOs (Samriddhi: 2013). This support came to an end in July 2013 and currently Samriddhi leaves it up to the LSPs whether they want to support MSEs in their advocacy work (Talukder: 2014). Instead, to organise the demand-side of services (producers) in a business-like way and to reduce transaction costs of RAS delivery and sales, the project supported the formation of producer groups through LSPs. These producers groups are known under the label Micro and Small Enterprises (MSE). In order to assess the needs of MSEs, LSPs, with support of the project, facilitate participation of MSEs in annual RAS planning meetings. In the frame of these planning meetings, producers and LSPs/SPAs jointly elaborate financing and delivery mechanisms for the RAS services.

Learning: Producer groups are a way to reduce transaction cost of small-scale producers through a higher degree of organisation. Through networks of MSEs, poor producers and women are able to access credits although they don't have collateral to offer.

Learning: Direct involvement of MSEs into RAS planning increases the potential of RAS to be demand-driven, and thus the readiness of producers to pay for the services.

2.4. Contributions to capacity building

The project contributed to capacity building at both the demand and the supply side of RAS.

Capacity building of RAS providers (supply side contribution)

Samriddhi assumes that farmers pay for RAS if they get accessible and affordable services that allow them to increase their income. That is why, capacitating RAS providers to provide such services, is considered a core function of Samriddhi. Until June 2013, Samriddhi spent a total of 310,000 CHF for capacity building of LSP and SPAs, which is approx. 3% of the total Samriddhi budget (Samriddhi: 2013).

The capacity building aimed at strengthening personal skill of extension staff. The training offered to LSPs and SPAs include (Gias: 2014 & Dietz et al.: 2013)):

- Trainings on organisational development
- Trainings on business planning and financial management skills
- Match-making workshops with different market actors and government line agencies
- Learning visits and exchanges with other RAS providers
- Workshops on the strategic development of SPAs
- Trainings on participatory formulation of business plans

²E.g. Asian Development Bank (ADB), the International Fund for Agricultural Development (IFAD), the Food and Agricultural Organization (FAO), Strømme Foundation (Talukder: 2014)

- Trainings on facilitation and moderation for extension workers

Capacity building of agricultural producers

After phasing out the above-mentioned capacity building of WPs, demand-side support was directed towards MSEs. Beside extension services, Samriddhi supported NGOs to train MSEs in business planning (Samriddhi: 2013).

In mid-2013, the collaboration with all NGOs, and thus the training of WP and MSEs was phased out. With this, the grassroots advocacy component of the project came to an end. In order to institutionalise exchange between LSPs/SPAs, former WPs, and MSEs, Samriddhi promoted an annual meeting of all stakeholders. In these meetings the stakeholders jointly elaborate an annual RAS plan and agree on its financing.

Learning: Samriddhi phased out support, although not all WPs and MSEs were considered able to continue their work without project support. This enabled the project to focus on activities with higher sustainability potential.

2.5. Contributions to rural advisory contents and methods

The former SAAKTI project directly contributed to the content of RAS by elaborating learning modules on sustainable agroforestry methods (SAAKTI: 2008). SAAKTI established a regional resource pool for knowledge and innovation exchange that allowed LSPs to access new advisory contents. With the merger of SAAKTI and LEAF, such direct project involvement in elaborating extension contents ended, and the resource pool was not maintained any longer. In the following, Samriddhi focused on facilitating the private sector or government line agencies (GLA) to provide technical know-how and training to SPAs and LSPs.

An on-going project contribution to the RAS content is the regular assessment of output markets. The project aims at identifying promising new value chains (VC) y conducting market analyses. In addition, if an SPA decides to offer services for new VC, the project finances related capacity building.

2.6. Financial contributions

While SAAKTI supported WPs with funds enabling them to pay for RAS, Samriddhi did not directly subsidise RAS delivery in form of direct payments neither to the supply nor to the demand side of RAS. The delivery costs are born by MSEs, line agencies or private market actors (Samriddhi: 2013).

Nonetheless, the services offered by the LSPs were subsidised: the project financed a large part of capacity building, networking and market development activities of SPAs and LSPs with almost two million CHF (~20% of total project budget) until mid-2013 (Samriddhi: 2013). This support to SPAs and LSPs is a considerable subsidy to RAS delivery, although not a direct and expectedly not a never-ending one.

The support was gradually phased out since 2012. In 2013, the first six SPAs have been fully phased out of project support, followed by another 15 SPAs in 2014 (Talukder: 2014; Dietz et al. 2013). The process of phasing out correlated with the performance of SPAs: Well performing SPAs were phased out, while weakly performing SPAs still get support in form of capacity building and organisational development through an innovation fund (Uraguchi: 2014). SPAs can submit proposals for learning and networking activities in order to access finances of the innovation fund.

Learning: From the start, Samriddhi did not directly subsidise RAS delivery, but covered training costs of LSPs and SPAs. This increased the chance of the RAS system to become financially sustainable.

Learning: Phasing out of project support for selected SPAs began before the overall phasing out of the project. This allowed the project to observe possible challenges arising with the phasing out of support.

2.7. Contributions to coordination and networking activities

In order to increase opportunities of SPAs and LSPs to be trained and employed for RAS delivery or sales of inputs, Samriddhi identified market actors for selected VCs and supported linkages between SPAs, market actors, research institutions, and public sector entities (Talukder: 2014).

Enabling linkages to value chain actors

The project also counted on networking for what concerns the agricultural innovation system. It assumed that through well-maintained relationships among VC actors, SPAs are able to access continuously updated

agricultural knowledge and innovation (see: 5.1). Therefore, Samriddhi coached SPAs to create and maintain linkages to other actors.

Samriddhi has been successful in forming sustainable business relationships between (inter-)national and regional companies and SPAs. These collaborations became increasingly independent from project initiatives. There are almost 100 private companies employing LSPs via SPAs to expand their retail network. On average, each SPA maintains business relationships with over four private sector companies (Samriddhi: 2014).

Enabling linkages to finance institutions

Although Bangladesh is a pioneer country for micro finance activities, the target group of Samriddhi has trouble in accessing financial products that are adapted to their needs in terms of loan amount, collaterals, and repayment schedules. That is why the project has supported LSPs in developing advisory services on financial literacy and business planning, and in creating linkages to (micro-) financial services providers (MFIs). The idea behind the linkages between MFIs, SPAs, and LSPs was that MFIs train SPAs on financial products, and LSPs then inform and facilitate farmers to access these products (Reza et al: 2014).

Learning: Making financial services part of the RAS system allows LSP/SPA to offer holistic services that farmers are ready to pay for. It was assessed that poor farmers' and women's access to financial products significantly increased through the networking and information services of LSPs and SPAs (Reza et al: 2014).

3. Efficiency of the contributions

This study calculates efficiency based on a very rough calculation dividing the total project costs by the number of farmers reached with RAS.

Total project funding / number of farmers accessed by RAS

Funding: 2004-2010: SAAKTI CHF 4.2 million (MTR LEAF SAAKTI: 2010)

Funding: 2004-2010: LEAF CHF 14.9 million (MTR LEAF SAAKTI: 2010)

Funding: 2010-2013 (-15): CHF 8.4 million (Samriddhi: 2013b)

Total funding: CHF 27.5 million

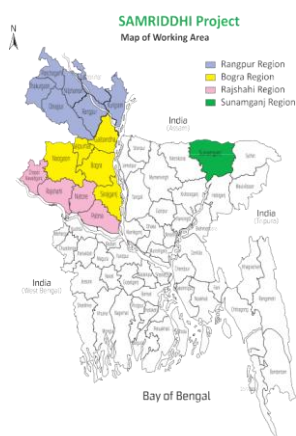
Directly targeted farmers: 750'000 (54% women)

→ CHF 27.5 million / 0.75 million farmers = ~CHF 37 per farmer directly benefitting from RAS

There are two reasons for relatively low costs of extension services:

- Bangladesh has one of the world's highest population density. Thus, although by doing only short distances, an extension worker can reach out to many farmers
- Private sector and government finance 73% of the total value chain activities of SPAs and thus co-finance the RAS system considerably.

4. Outreach of the contributions



Samriddhi's contributions led to the functioning of a private RAS system based on LSPs and SPAs that is operating in Rajshahi and Rangpur Divisions and Sunamganj District (~400'000 RAS users), as well as in some adjacent regions (~350,000RAS users).

Figure 3: Samriddhi RAS Area

5. The RAS system after Samriddhi's intervention

This chapter provides an overview of the RAS system in Samriddhi project area after the project intervention. It describes the RAS system's stakeholders, its pluralistic dimension, and the agricultural knowledge and innovation system. Finally, the chapter assesses the effectiveness of the RAS system with focus on producers' livelihoods and food security, the expected sustainability of the RAS system, as well as its inclusiveness.

5.1. Evolution of the Samriddhi RAS system

Since its foundation through LEAF and SAAKTI project, three components of the Samriddhi RAS model has changed significantly:

1. **RAS financing system:** From voluntary service delivery of LSPs, to a subsidised service provision, and further to fee-based RAS services financed by divers stakeholders demanding RAS.
2. **Knowledge and innovation system:** From NGO-based capacity development of extensionists to a knowledge and innovation system that bases on private companies and government agencies.
3. **RAS content:** From a thematic focus on agro-forestry to thematically diversified and holistic RAS services including business advisory and financial services.

The following information refers to the current RAS system after these evolutions.

5.2. Design of the “new” RAS system

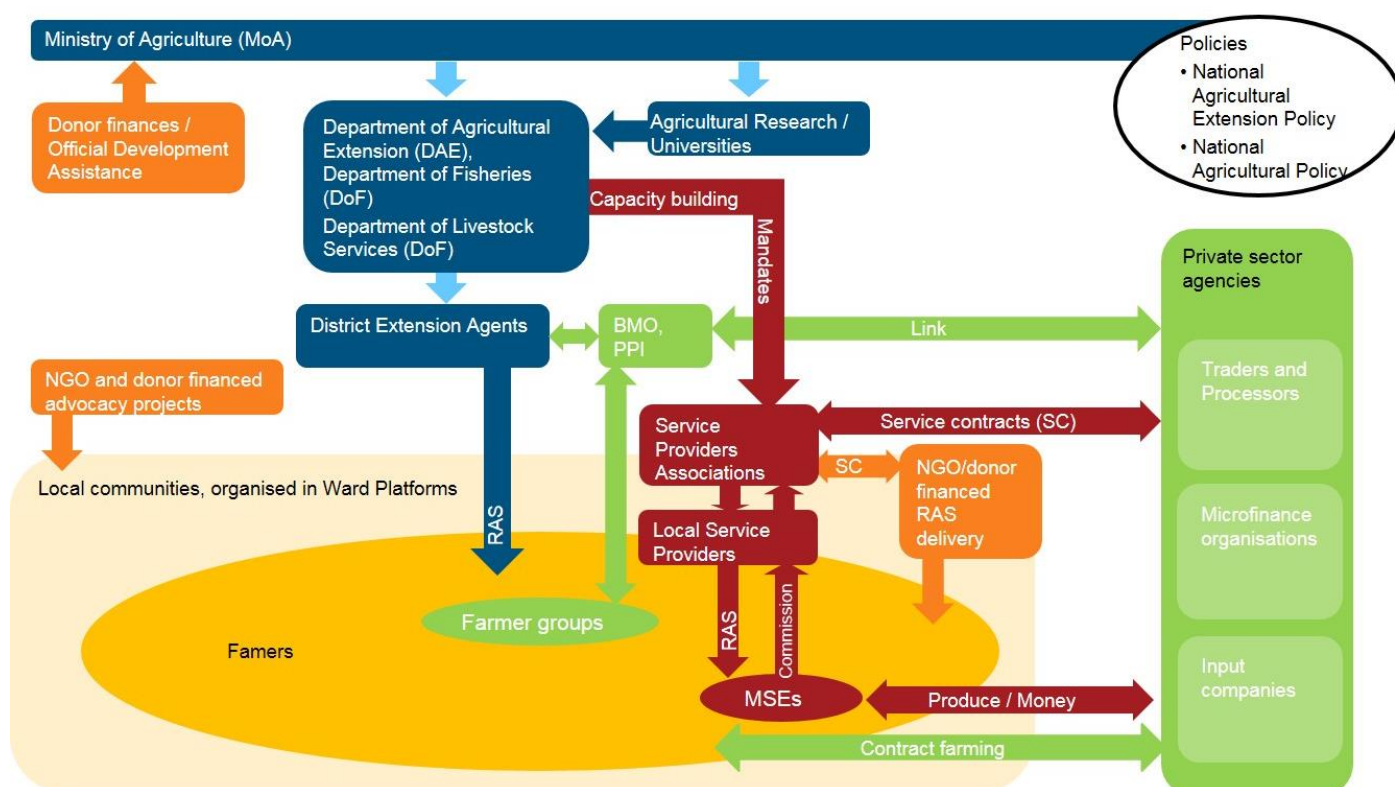


Figure 4: RAS system and its stakeholders: Green: private sector RAS actors // Red: Samriddhi RAS actors // Blue: public RAS system // Orange: donor and NGO financed RAS actors. (Author's own figure)

Table 1: Overview of the RAS system's stakeholders (adapted from Dietz et al.: (2013))

Local Service Providers and Service Providers Associations	Lead-farmers developed as LSPs and organised in SPAs. They provide services for which they are mandated by MSEs, individual farmers, private sector agencies and GLAs. SPAs operate service centres in market places and facilitate linkages between private sector agencies, GLAs and LSPs.
Micro and small enterprises and their networks	MSEs are producers that are organised in MSE to receive support services from LSPs. MSE networks combine approx. 20 MSEs.
Private sector agencies in input markets	Private sector companies such as vegetable seed producers, producers of vaccines, producers of pesticides, animal drugs and animal feed, etc. They train LSPs or organise demonstration plots through LSPs.
Private sector enterprises in output markets / traders	Vegetable traders, animal traders, garment manufacturers, pharmaceutical companies employ LSP to provide trainings on the required produce and organise bulk sales of produce.
Private financial service providers	NGOs or banks offer financial services via LSPs to producers. They also train LSPs on financial products.
Business Membership Organisations (BMO); Contract farming	Other market based RAS initiatives, e.g. the SDC/Swisscontact Katalyst project.
Government line agencies (GLA)	GLAs provide RAS themselves and complementary mandate SPAs/LSPs to provide services.
Universities and research institutes	They are linked to the GLAs, but weakly linked to private RAS providers
Donors	Provide funds to the MoA in order to strengthen its services. Finance NGOs to provide RAS to the local community. Train extensionists on extension content and methods.
Farmers	Agricultural producers not organised in farmer groups or MSEs.

5.3. Description of actors in the “new” RAS system

5.3.1. RAS Providers – LSPs and SPAs

- LSPs and SPAs are the core of the market development approach of the RAS system. In June 2013, **4.923 LSPs** (22% women) offered services to producers. Two third of all LSPs are member of one of the **63 Upazila (sub-district) based SPAs**, while the others offer their services on an individual basis (Samriddhi: 2014).
- SPAs are responsible to establish functional linkages with the private and public sector in order to acquire mandates for LSPs. Up to date, 63 SPAs have established linkages with 126 private sector companies and GLAs - on average SPAs have contracts four to five private companies (Samriddhi: 2014). These SPAs became accepted players in the country RAS system: In 2014, the private actors came up for 73% of all value chain activities of SPAs, and their contribution is expected to increase (Samriddhi: 2013/14). However, SPAs sustainability is not yet fully ensured. Although LSPs pay member fees and service commissions to the SPAs, some SPAs still finance a substantive part of their activities from project funds (MTR: 2012 and Blaser: 2014).

5.3.2. Government line agencies (GLA)

The **Department of Agricultural Extension (DAE)** is the country's largest public extension agency. The department has the mandate to provide extension services in field crops, fruits, vegetables, spices, and also integrated farming systems. In practice, it mainly deals with major field crops, especially cereals. Complementary, the **Department of Fisheries** or the **Department of Livestock Services** are mandated to provide specific services to the rural population in their respective thematic areas. These GLAs have only meagre resources available to provide the expected support to a large number of farmers. That is why the GLAs are interested in collaborating with SPAs and through them reaching out to farmers more efficiently, including those living in remote areas. In order to enable LSPs to provide the required services, line agencies provide initial and on-going training to LSPs through SPAs. (Dietz et al. 2013)

Learning: The complementation of the public RAS system with private service providers is in this case benefitting to all stakeholders: Farmers get the promised trainings and inputs, GLAs pay less due to relatively lower salaries of LSPs, and LSPs get public finances to offer RAS.

5.3.3. Value Chain actors of Samriddhi RAS system

Three stakeholder categories belong to this group. Their demand for RAS of LSPs relies on LSPs capacities to provide proper and result oriented services (Dietz et al.: 2013).

- 1) **Micro and Small Enterprises (MSEs)** are producer groups that have been mobilised by LSPs with support of the project. MSEs are the actual target group of Samriddhi. They make use of RAS and inputs provided by LSPs. Their role in the RAS system is:

- to participate in planning meetings and elaborate jointly with LSPs yearly production plans, to define required services, inputs, and the corresponding financing mechanism;
- to produce and sell their produce according to the agreement with LSPs/SPAs;
- to pay for inputs and services as agreed in the annual planning meeting.

Learning: The mobilisation of farmers to participate in farmer group is a crucial moment for the inclusiveness of a project. Often the same (active and well accessible) farmers participate in diverse farmer groups, while others are missed out.

In 2015, over 455,000 producers (47% women; 35% poor and extreme poor producers) were organised in 5,700 MSE. Many of these MSEs are organised in one of the over 200 MSE networks, which allows them to better access financial products. Another 300,000 producers were linked with LSPs without being member of an MSE. Of those farmers using LSPs, women are more likely to participate in MSEs. However, Blaser (2013) is concerned about the inclusiveness of MSEs and other farmer groups. He has observed that some farmers are members of several project supported farmers groups, while others are never selected to participate in such groups.

- 2) **Private input suppliers** sell the following inputs via LSPs or directly to farmers: pesticides, vaccines, pheromone traps, de-worming tablets, feed, seed, medicine, organic fertiliser, compost and vermin-compost via.

They provide trainings via SPAs to LSPs on the proper use of the inputs. Input suppliers account for the greatest number of involved private agencies. However, the total income LSP raise by working as input sales agent accounts only for 10-15% of the total LSP income.

- 3) **Output traders** include vegetable traders, animal traders, garment manufacturers, pharmaceutical companies. They agree with SPAs on production and trade plans and provide trainings via SPAs to LSPs. Output traders buy produce of MSEs that was upgraded in terms of quality and bulking, while SPAs and LSPs organise the sales through their collection centres. Traded products include fattened bulls, chicken, fish, vegetables, fruits, and crafts (Samriddhi: 2014b).

In 2014, 126 private companies (from input and output markets) were engaged in the RAS system (Samriddhi: 2014). The contracting companies include national, but also international companies such as ACME, Syngenta, Novartis, whereas the network with input traders is far better developed than the collaboration with output traders.

5.3.4. RAS actors of complementing RAS programmes

Other market based RAS initiatives, e.g. the SDC/Swisscontact Katalyst programme facilitate Business membership organisations, and enable farmer groups' to access trainings from government extension offices and private companies. This collaboration enhances farmers' access to input and output markets.

5.3.5. Financial service providers

(Micro-) finance institutions have elaborated and offer a dozen of different financial products that are well suitable for the Samriddhi value chains. In order to disseminate these financial products, (micro-) finance institutions employ and coach SPAs and LSPs to train producers on financial products and to facilitate credits. (Reza et al.: 2014)

5.4. Pluralistic dimension of the RAS system

The goal of the National Agricultural Extension Policy of Bangladesh is to: "Encourage the various partners and agencies within the National Agricultural Extension System (NAES) to provide efficient and effective coordinated services which complement and reinforce each other, in an effort to increase the efficiency and productivity of agriculture" (NAEP: 2012).

The RAS system of the project area is insofar pluralistic as private actors, NGOs, producers, and government line agencies, finance and offer services. This pluralism of the RAS system is expected to sustain after phasing out of the project: on the one hand, other development initiatives are working in the area of market-based RAS provision, and, on the other hand, SPAs will maintain various strategies to finance their services. They may work as social entrepreneurs and try to access development funds, or become private businesses by intensifying their work with private sector agencies or GLAs.

Table 2: Pluralistic dimension of the RAS system (adapted from Schmidt: 2012)

Source of finances	Service Providers					
	Public sector	Private Sector			Civil Society	
		Input supplier	Processors / traders	Private RAS providers	NGO	Private companies
Public	DAE, DLS, DoF, and research institutions offer services for free.			GLAs employ SPAs to provide RAS. GLA train LSPs and provide them with inputs (mainly vaccines and medicines)		
NGO/Donors	ODA and tax money to provide services	Samriddhi and Katalyst facilitate linkages between service providers and value chain actors		Samriddhi trains LSPs and SPAs	Free services offered by a range of NGO's	
Private companies		LSPs as sales agents receive commissions	Trader and processors linked to MSEs	LSPs link MSEs to financial institutions on a commission basis		
		Other private input suppliers		Private companies provide training to SPAs/LSPs.		
				Service centres ran by SPAs		
Farmers (MSEs)		Private companies sell inputs directly or via LSPs to farmers		SPA rent out agricultural equipment		
Producer organisation (PO)						

5.5. Agricultural knowledge system

SPAs are expected to access knowledge and trainings from private companies or GLAs, such as the Department of Livestock Services (DLS), Department of Agricultural Extension and the Department of Fisheries (Dietz et al.: 2013). Examples are:

- The Department of Livestock Services trains LSPs via SPAs on vaccination procedures. In the following, the department mandates SPAs to organise vaccination camps.
- Private companies train LSPs via SPAs on the proper use of chemicals or seeds that the companies sell via LSPs to MSEs.

Depending on business capacities of SPAs, these trainings will be maintained after the phasing out of the project. Another way for SPAs to receive knowledge and mandates is to strengthen their collaboration with international NGOs that are interested to mandate LSPs in order to reach their project goals.

LSPs' demand for capacity building

Since Samriddhi scaled down capacity building contributions, LSPs' and SPAs' demand for capacity building support from public and private entities increased. In an assessment in 2013, LSPs felt that the support for capacity building should cover a greater range of skills and knowledge in order to react on farmers' requirements for trainings (Samriddhi: 2013). Also Dietz et al. (2013) mentions that "SPAs and LSPs still face challenges of becoming sustainable, because their knowledge and the viability of their services require increased organisational, financial, and technical capacities." This raises the question, whether the established linkages are strong enough, respectively whether LSPs are able to link up with other actors of the innovation system in a way that they can access the needed knowledge and innovation.

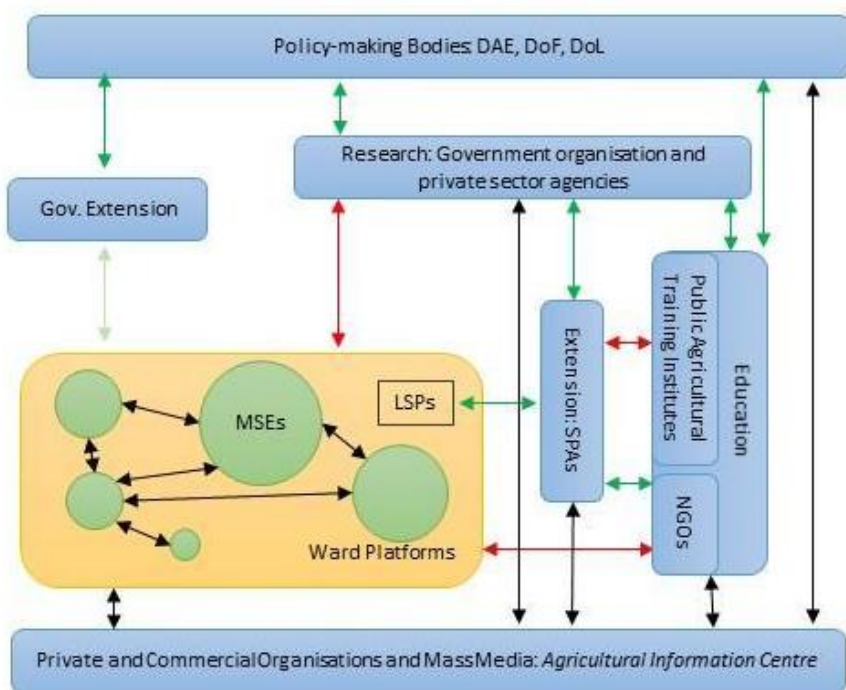


Figure 5: Agricultural Knowledge and Innovation System: green arrows: functioning linkages // red arrows: no functioning linkages // black arrows: missing linkages. (Author's own figure, based on Agridea: 2006)

6. Effectiveness of Samriddhi RAS system

This chapter discusses the effects of Samriddhi RAS system on the livelihoods of producers and LSPs.

6.1. Effects on food security and household economic

„Bangladesh has achieved considerable progress in domestic food production but still poverty related food insecurity is widely prevalent and the number of hungry people has increased to 2.4 million persons in the last decade“. (Karim: 2009)

Samriddhi acts according to the impact logic that higher income and yields increase farmers' access and purchase of food and thus their food security. Data on the real impact on food security were not assessed by the project since food security is not an explicit project goal. However, one can assume that VCs aiming at food production for local markets have a positive impact on farmers' access to food: These VCs are improved fisheries, duck and chicken breeding, fruit and vegetable production.

Other VCs aim at promoting products that are not consumed by poor producers and thus may compete with local food production. These VCs include bull fattening or medical plants. Exactly these VCs, however, are among the most profitable ones and are expected to sustain in the long run.

One can attribute the following economic effects to the LSP RAS system:

- Until June 2014, LSPs were able to offer RAS directly to around 750'000 poor and extreme poor producers (54% women), and allowed them to **upgrade existing VCs or enter into new VCs** (Uraguchi: 2014b). In total, 12 VCs have been established, whereas nine VCs created a value added through reduced transaction costs and increased product quality. The three other VCs (goat rearing, jute crafts and plant crafts) were phased out already in the course of the project.

Learning: Working only on VCs that have the potential to generate a value added through RAS is a consequence of the Samriddhi market approach for extension delivery. This excludes the promotion of pro poor value chains with little value added, which would depend on long-term project support, but might benefit the poor.

Value chain	Number of producers (end 2012)	Assets/inputs required
Bull fattening	36,109	Calf, feed, shed / stall, vaccine, medicine
Chicken	112,656	Chick, cooperative shed, feed, medicine, vaccine
Cotton crafts	23,018	Sewing machine, fabric
Dairy	39,164	Cow, shed, feed, medicine, vaccine
Duck	108,015	Duckling, feed, coop, vaccine
Fish	78,482	Fingerlings, water body (pond, river), nets, boat, feed
Fruits	71,747	Land, seedling, fertilizer, plastic crate, initial investment
Goat	59,009	Nanny goat, initial investment, feed, medicine, vaccine, shed
Jute crafts	6,948	Land, seed, raw jute, production centre
Medicinal plants	60,000	Land, seed and seedling, collection centre
Plant crafts	26,298	Raw material, production centre
Vegetables	75,100	Land, seed, fertilizer, collection centre

Table 3: Value chain development and number of producers involved. (Dietz et al.: 2013)

- In 2014, 70% of the 210,947 producers working with LSPs adopted **new or improved technologies** and 58% **bought quality inputs** (Reza et al.: 2014). Samriddhi assumes, that producers only adopt new technologies if they derive an economical benefit from them. As a conclusion the promoted technologies and inputs are considered economically beneficial.

- 39% men-led MSEs and 54% of women-led MSE (out of 5700 MSE) have developed and implemented **business plans** in 2014. Having a business plan is crucial to access financial products (Samriddhi: 2014).
- Seven types of **financial products** suitable for 11 VCs, have been made available to MSE-networks. As of June 2013, a total of 43% of all MSEs were able to cover at least half of their financial requirements as per their business plans. (Reza et al.: 2014)
- The **private sector contributions to the VC activities** continuously increased up to 73% (BDT 3357110) in 2014, while the project financed the remaining amount of BDT 1,247,503. (Samriddhi: 2014)
- The **salary** of the 3,2610 male LSP and 807 female LSPs working with SPA continuously increased up to on average CHF 70 per month for male LSPs and CHF 33 per month for female LSPs (Samriddhi: 2014). The reason that salaries of female LSPs are only half as much as the salary of male LSPs lies in the fact that women face constraints to work full time as LSPs, and that women's mobility and thus their reach-out to farmers is limited to areas reachable on foot.
- Further, differences between value chains are substantial: livestock performs best (CHF150 per month), while for some LSPs, for instance in the three crafts' value chains, service fees and commissions are only a side income (CHF 15 Taka per month). Currently, LSPs income from retailing is still low in comparison to returns from business services (10-15% of the total monthly income of the technical LSPs) (Samriddhi: 2012).

Learning: Thanks to the inclusion of women in the producer groups, women and men farmers of the Samriddhi RAS system have equal access to financial products.

6.2. Ecological effects

Samriddhi has not analysed the ecological effects of the RAS system. The RAS system bases mainly on private companies promoting agricultural inputs and technologies to increase farm productivity. Generally the upgrading of value chains bases on intensification of agricultural production, and only marginally on improved product quality. In most cases, this intensification is combined with an increased usage of mineral fertilisers or hybrid seeds. This raises the questions on how the agricultural change will affect natural resources in the long run, and who will train farmers on sustainable soil management if intensified production systems are the driver of the RAS system.

Further, SPAs are working with two of the greatest GMO seed producers, Syngenta and Novartis. Yet, the use of GMO is restricted by law. As soon as this restriction will be weakened, LSP distribution channels can be used for the distribution of GMO varieties, which brings along well known an ecological and economical risk for producers.

Samriddhi let it up to market actors to decide about what agricultural practices farmers want to promote and thus has limited influence on the content of RAS. This leads to the above-described situation that might contradict the goal of promoting a sustainable agricultural production systems. The experiences of Samriddhi show that there is need for further discussion on how to integrate the promotion of sustainable agriculture into a RAS system that should be privately financed.

6.3. Social effects and inclusiveness of the RAS system

- Approximately half of the LSPs, mainly men, work full-time as service provider and are able to make a living based on service provision. For the remaining LSPs, the income from service provision and commissions accounts for a welcomed topping up of their income from other activities.
- The selection of pro-poor orientated value chain allowed for inclusion of poor farmers in the RAS system: e.g. cultivation of medicinal plants along the roads doesn't require land. As result, over 54% of the RAS users are women, and 35% are poor and extreme poor (Samriddhi: 2014). Samriddhi has so far been able to prove that it is possible to engage poor people, and women, in market and value chain development - at least in a manner that brings them financial benefits. The benefits and the participation of poor farmers differ by value chains,
- The subsequent table shows that chicken and duck breeding are value chains with a high percentage of participating women. They are also applied by a large share of MSEs. Other value chains, e.g. jute craft, medical plants, and plant crafts have a high share of participating women, too, but only 1-7 percentage of the MSEs work in these value chains – they are thus less important for the overall impact. Carter et al. (2014) states that value chains that are considered socially appropriate for women are generally those

- that are located close to, or at least not far from, home,
- that require particular dexterity or patience,
- and/or include nurturing.

Value chain	Men	Women	% of women in VC	% MSEs in VC
Bull fattening	26721	9388	26%	5%
Chicken	15772	96884	86%	16%
Cotton crafts	2532	20486	89%	3%
Dairy	25065	14099	36%	6%
Duck	20523	87492	81%	16%
Fish	65925	12557	16%	11%
Fruits	61702	10045	14%	10%
Goat	14162	44847	76%	9%
Jute crafts	3127	3821	55%	1%
Medicinal plants	21654	29903	58%	7%
Plant crafts	10782	15516	59%	4%
Vegetables	49566	25534	34%	11%
Total	317531	370572	54%	100%

Table 4: Number of farmers participating in upgraded VCs. Red: Women dominated VCs; yellow: with more than 10% of farmers participating, quantitatively relevant VCs (adapted from Carter et al: 2014)

Figure 6 clearly shows the “correlation between financial potential and women's involvement, with women tending to be involved in value chains that have the least potential for added value” (Carter et al.2014). Carter et al. (2014) also show that most of these value chains are comparably less profitable, while medicinal plants and dairy are exceptions.

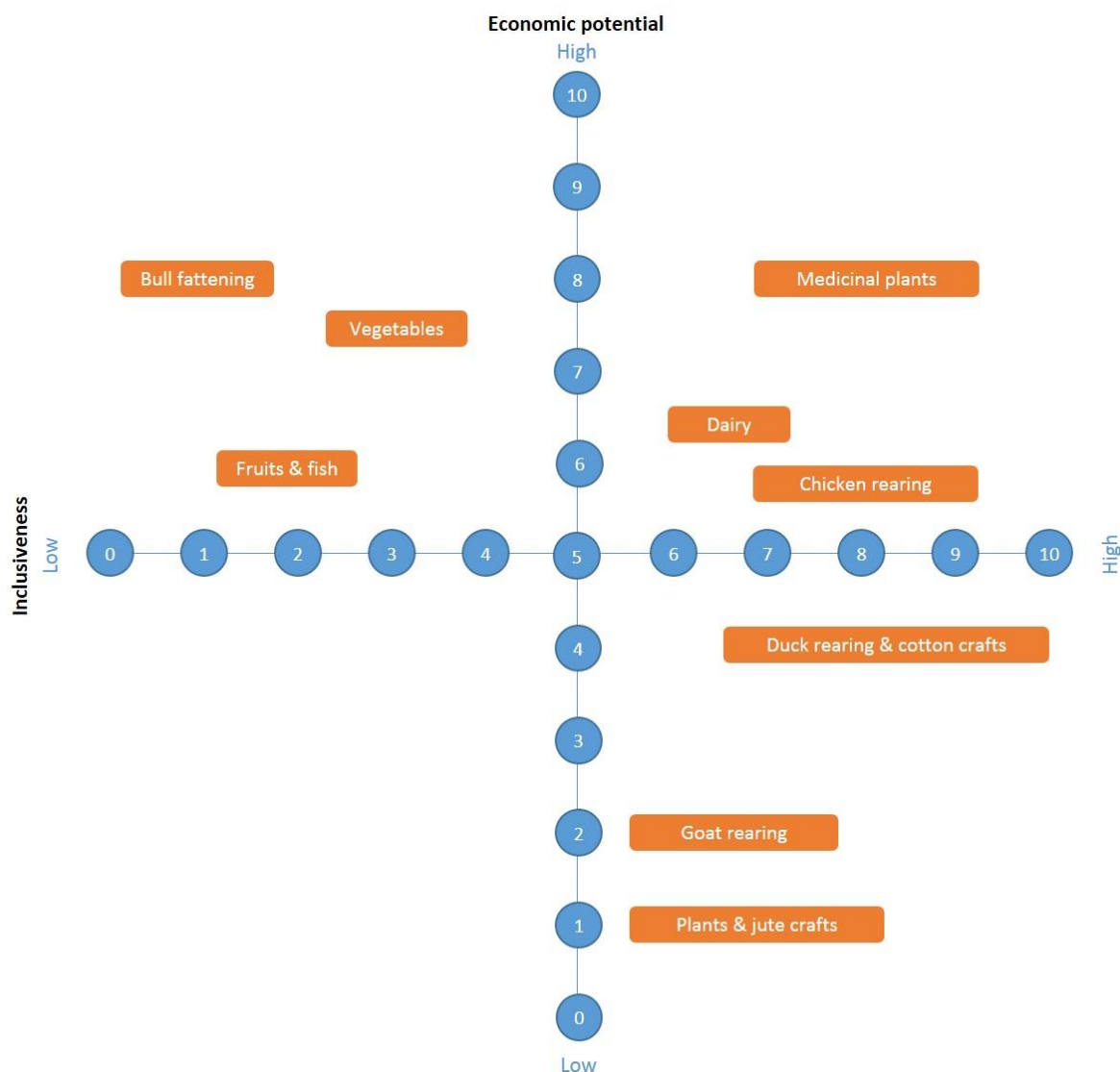


Figure 6: Economic potential versus inclusiveness of the 12 value chains supported by Samriddhi (adapted from Carter et al.: 2014).

The RAS system's strategies to tackle the challenge of being inclusive

1. **The development of inclusive value chains** has widened the outreach to extreme poor, poor and women producers. These VCs are medicinal plants, chicken and goat rearing, dairy production, plants and jute crafts:
 - Female producers constitute 70% -77% of the producers of cotton crafts, chicken and duck breeding, and goat rearing.
 - Extreme poor and poor producers constitute 45% in fruit production, 60% in chicken, duck, and goat rearing as well as in the cotton, jute and plant crafts VC.

Among the inclusive VCs, however, only chicken breeding, dairy and medicinal plant create a value added through RAS. It is probably that only these VC will be maintained in the long run.

2. **Many of the LSPs used to belong to the group of poor and extreme poor producers in their community.** On the one hand, working as LSPs has lifted them out of poverty, on the other hand, they are accessible by all community members, including poor and female producers.
3. **Local service centres run by SPAs** are often initial contact points with local producers. The access to service centres saves time and cost, particularly for the poor. (Dietz et al.: 2013) They may act as information hubs as well as bulking places for inputs and outputs. They are open to any client and

therefore may include also marginalised people. (Blaser: 2013)

4. **Being local and deliver service at the doorstep:** LSPs have a higher degree of accountability and access to their clients than outsiders would have. All these factors support the focus of SPAs / LSPs on the poor and extreme poor.(Dietz et al.: 2013)
5. **Due to the “hands-holding”** or guiding role of the project, SPAs and LSPs are encouraged to make sure that lead farmers include small and marginal farmers as well as women in their farmer groups (Blaser: 2013). This will be maintained at least in those SPAs that strive to become a social entrepreneur financed to a great part by NGOs or social enterprises.

7. Sustainability of the RAS system

This chapter provides an overview of the factors required to ensure that the RAS actors continue offering and using the services of LSPs/SPAs after phasing out of Samriddhi. The table shows where the RAS system stands in maintaining these factors and what constraints it faces (Dietz et al. (2013); Blaser (2013).

Factors that foster the sustainability	Capacity to maintain these factors	Constraints to maintain these factors
The RAS system has the capacity to benefit all involved stakeholders: service clients (MSEs and private and public sector agencies) and service providers.	Some of the VCs / services as well as the collaboration with GLAs have the capacity to benefit all involved stakeholders. Such as bull fattening, input provision, medical plants, livestock support (GLA) . These activities are expected to sustain after the project's phasing out.	To maintain the VC, a professional organisational body (SPAs) is needed that employs service providers, manages contracts between stakeholders and ensure quality of the services. The capacities of SPAs are still diverse and 43 out of 63 SPAs are yet supported by the project (some at a minimum level)
The service is holistic and meets farmers' expectations in terms of contents, delivery method and language.	The Samriddhi services include financial products, business plan elaboration, input supply and facilitation of output markets. They are considered well holistic.	Many farmers are not willing to pay “only” for the organisation of trainings. That's why RAS is mostly supply and not demand side oriented i.e. government extension service or input companies offer embedded services related to their inputs.
Working with large private sector companies is a key to improve sustainability, outreach and up scaling possibilities.	ACME, Novartis and Syngenta are some of the large companies the SPAs are working with. (PSMU: 2013)	Assisting multinationals to set up their distribution channels bears the risk that these companies use the channels to distribute genetically modified organisms or other inputs that may threaten ecologic and social sustainability.
The services are available at the doorstep.	LSPs are locally based service providers and able to access farmers at the doorstep.	
The services are affordable and create a value added to the persons using the services.	9 of the 12 promoted VCs, and in particular bull fattening, create a value added to MSEs. The private sector co-finance 73% of the services and thus reduces the service costs to be paid by farmers (Samriddhi: 2014).	Some VCs are not lucrative for SPAs such as the craft subsector and will be neglected although they might be benefiting to poor farmers. To create the value added, Samriddhi successfully promotes a more intensive agriculture . These yield gains are guaranteed in the long run, because intensification might lead to a loss of soil quality and biodiversity.

Table 5: Opportunities and challenges of the sustainability of the RAS system

For the mentioned sustainability factors it is most crucial that SPAs make a great work in terms of networking and developing and facilitating new value chains. That's why the SPAs' capacities to do so are described here in some more detail:

Sustainability of SPAs

Since 2013, 21 SPAs out of 63 have been phased out of project support, and all of them continued to deliver their services. After graduation, the SPAs received funding from private agencies, GLAs, as well as from NGOs. Nevertheless, Blaser (2013) is concerned whether the capacities of SPAs are strong enough to maintain the business relationships. Regarding the collaboration with GLAs, Blaser (2013) states that "training SPAs and LSPs instead of farmers clashes with the need of government officers to meet their target in training a certain number of farmers (themselves). As farmers might not be willing to pay for training only, (...), there is a risk that LSPs would not be motivated to propagate their knowhow (without combining it with other business activities.)" For these reasons, Blaser (2013) presumes that at least some SPAs might rely on NGO support for still a long time, and Gias (2014) confirms that NGO mandates still play a considerable role in the phased out SPAs (Gias: 2014). Continuous donor support might torpedo SPA's motivation to become private businesses that are sustainably financed by private agencies or GLAs. This, however, needn't contradict the sustainability of SPAs, since donor support for rural development is expected to continue in Bangladesh for the next years. Despite Samriddhi's consequent M4P approach and accordingly strong market orientation, donor funds are still crucial for the delivery of services – in particular in VCs with a relatively high poverty orientation.

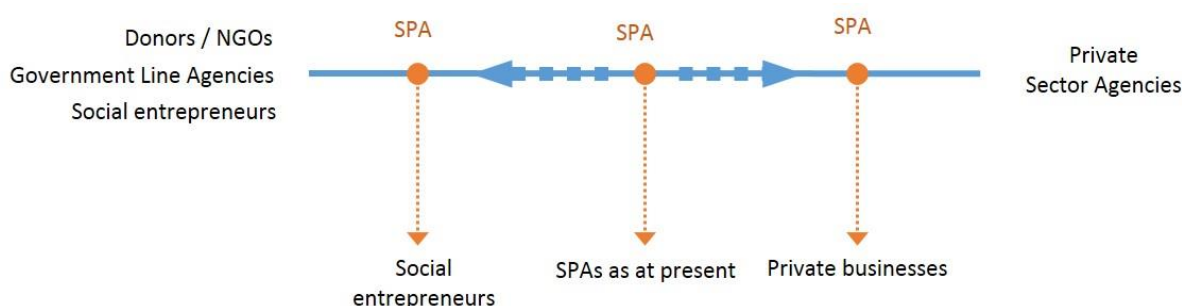


Figure 7: Possible source of funding for SPAs in future: SPAs will become either social entrepreneurs financed mainly by donors or GLAs, or private businesses financed by private sector agencies. (Author's own figure)

In some SPAs, members commit their work voluntarily without generating a regular income. This let assume that there is another, probably social motivation for SPAs to deliver services. The following factors will play a decisive role for the functioning of the SPAs and thus of the RAS system:

- **Amount of commission** the LSPs raises on their input sales. Usually around 3% of the turnover is provided to SPAs.
- **Quality of SPAs:** Yet 62% of LSPs are members of SPAs. The remaining LSPs don't trust into the capacities of SPAs to connect them with service clients. Only with a well-established network and advances business capacities SPAs will attract LSPs as members – the source of their income.
- **Social factors** motivating SPAs to offer services, such as reputation, social responsibility, etc.
- **Accreditation by the government:** The SPAs that are accredited by the Government of Bangladesh increased their credibility with this have a higher chance to get service mandates.

Learning: By issuing accreditations and approving the quality of service providers, the government can effectively support private RAS provision.

In 2013, more LSPs expressed satisfaction with the support of their SPA than before, and participation of LSPs in SPAs increased to 62%, which might be a sign of better management capacities of SPAs (Samriddhi: 2014).

8. Conclusions: Learnings and innovations from Samriddhi on how to reach large numbers of farmers with RAS

Build capacities first, then promote the extension services

In the case of Samriddhi, the RAS system was first established at village level. As soon as sufficient qualified LSPs covered the project area, Samriddhi promoted the LSP system to GLAs and to private sector agencies at national level. This way, the future RAS actors did not need to bear the risks that may arise in the first time of establishing a new system. Further, the RAS providers could already proof their effectiveness, which eased the promotion of LSPs at national level.

The business case – RAS benefitting to all stakeholders

A strength of the Samriddhi approach is its focus on business cases. According to the M4P approach, Samriddhi assumed that only those VC that benefit all involved stakeholders, will sustain after the project phased out. Accordingly, Samriddhi put great effort to conduct market studies in order to define VCs that create a value added to all stakeholders. The project also consequently phased out support to VCs in which RAS could not create such value added. With such strategy, Samriddhi succeeded in establishing services that are expected to be financed without further project support.

With two VCs, medical herbs and chicken breeding, Samriddhi even succeeded in creating a business case for poor, also landless farmers.

As persuasive such approach is, its drawback lies in the fact that most of these business cases base on intensification of production. They thus might not be ecologically sustainable.

Combine financial services with embedded services

The combination of embedded services with financial products is key to integrate poor farmers into VCs that require increased input supply. Such VC often create a high value added, at least in the short term. In the case of Samriddhi, MSEs receive support from LSPs to develop joint business plans. Based on these business plans, MSEs supported by LSPs are able to apply for credits they need for their agricultural production.

On the one hand, such mechanism is possibly the only option that allows poor farmers to access credits, although they do not have collaterals to offer. On the other, one need to put a critical eye on such credit/input mechanism and support farmers to mitigate the risk of getting into debts caused through miss harvests or overrated expectations.

Local and relatively cheap service provision

In Samriddhi, locally based LSPs offer RAS. This decreases transportation fees and fosters availability of service providers in urgent cases. Locally based service providers may also foster the inclusiveness of the RAS system, since the service providers know the living conditions of producers. This all leads to the fact that LSPs are, compared to public extension service providers or professionals of private sector agencies, relatively cheaper and better accessible for farmers.

Holistic services and diverse roles of LSPs

The ability of LSPs to provide holistic services increases their potential to be employed by either of the stakeholders. The roles LSPs assume are:

- Technical and business advisors to MSEs
- Input suppliers
- Facilitator of output bulking and sales
- Facilitator of links with input and output markets
- Facilitator of links with credit institutions

Fully phasing out project support during the time or the project

Samriddhi fully phased out its support to some SPAs as well as to all WPs already in the course of the project. Only such consequent step allows for an assessment of the project's impact on the functioning of the promoted RAS system without project contributions. Such step also limits never-ending capacity building activities, which often appear because capacity building indeed is a never-ending process.

In example, the phasing out of some SPAs served as example for other SPAs and proofed that it is possible to work independently of donor support. Further, in the case of phasing out support to WPs, the project brought to an end a long term-building activity, all the same, not all WPs yet had sufficient capacities to function as advocacy platform.

Inclusion of RAS users in RAS planning

With the annual planning meeting where MSEs, LSPs, SPAs agree on the financing and delivery of RAS, RAS users are directly involved in RAS planning. Such direct involvement of MSEs into RAS planning increases the potential of the RAS system to be demand-driven, and in the following strengthens producers` readiness to pay for the services.

Reduce transaction costs

The formation of MSEs is a way to reduce transaction costs for output traders, RAS providers, finance institutions and input suppliers working with smallholders. This higher degree of organisation allows for an integration of smallholders into VCs that would not be accessible to these farmers individually.

Question: How to integrate sustainable agricultural practices into an M4P RAS design?

Samriddhi established a market-based RAS system that includes poor, and very poor farmers, as well as women farmers. The system is expected to sustain with support of the Government of Bangladesh, private companies and international NGOs – all of them are expected to employ LSPs to deliver services as to their demand. There will be a range of different demands from those employing LSPs, reaching from conventional training to farmers probably required from NGOs, vaccination programmes required by the Government, or full-fledged contract farming facilitation including input provision and bulk sales.

The sustainability of the promoted agricultural services and inputs will fully depend on the clients/employers of LSPs.

There is yet no vision on how to promote sustainable agricultural practices in such RAS programmes consequently designed according to M4P. Against this backdrop and from a development point of view, further elaboration on possibilities promotion of sustainable agricultural practices into M4P RAS programmes is necessary.

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Stefanie Kaegi 05.05.2015

CAPEX Study 2: Capitalisation of Experiences: Public Services for Agriculture and Rural Development Project; Vietnam: 2007 – 2015

A study to capitalise experiences in SDC financed rural advisory services programmes in Asian countries



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Summary

This desk study capitalises the experiences of the Public Service for Agriculture Rural Development Programme (PS-ARD) with the goal to derive learning from the project's successes and challenges. The study offers an overview of the rural advisory service (RAS) system before, during and after the project intervention and analyses in what way PS-ARD contributed to the current public RAS system.

The bilateral project was funded by the Swiss Agency for Development and Cooperation (SDC) with USD 11 million (respectively USD 101 CHF per benefitting household) and implemented from 2007 to 2015 in the two provinces Hoa Binh and Cao Bang by HELVETAS Swiss Intercooperation.

Major achievements of PS-ARD

- **Decentralisation of government finances** through a commune development fund (CDF): The provinces Hoa Binh and Cao Bang contribute around 50% to commune development funds.
- Establishment of **province wide networks** of local extension and veterinary service providers.
- **Adoption of the farmer field school approach as major extension approach and introduction of standards for financial management in government institutions.**
- **Building capacities of government staff** at province, district and commune level on participatory development planning, RAS delivery and financial management.
- **180,000 households** benefitted from the project: at least 30% women, around 46% poor households, and a high share of ethnic minorities.
- Institutionalisation of a tool (participatory social economic development plans (SEDP)) and its financing mechanism (CDF) to **investigate on farmers' training need** and accordingly adapt and provide RAS.

Derived learning: Successful approaches

- **Address the demand, the supply, and the policy side of the RAS system comprehensively:** PS-ARD approaches RAS through increased participation in governance and decentralisation of finances: it empowers rural citizens to express their needs and priorities, it capacitates local authorities to manage and allocate funds in order to respond to citizens' needs, and anchors this new system in the government procedures.
- Only the **combination of participatory planning with an adequate financing mechanism** of activities makes participatory plans a tool with a real impact.
- From the very beginning, the project aimed at a **government contribution to the CDF** in order to create ownership and to strengthen sustainable finance flows.
- Successful intervention: **Pilot first, create evidence, and then work towards institutionalisation**
- **Existing policies serve as a rational** for all project interventions: PS-ARD based all its contributions on the idea to translate existing policies into action.
- **Use of existing funding structures:** PS-ARD allocated project finances through the same channels as finances are expected to be allocated after the project's phasing out.
- **Satisfaction survey** with statistic significant samples and comparative groups is a monitoring tool with the potential to create qualitative and quantitative data.

Major challenges

- Difficulty to recruit and maintain skilled RAS staff due to limited capacity building opportunities and fluctuations of staff.
- Villagers prefer using funds for infrastructure rather than for RAS. Thus, decentralisation of funds and decision power bear the risk to weaken finances for RAS delivery.
- Participation of women and ethnic upland minorities is limited in government structures.
- Dovetailing national SEDP with participatory SEDPs was and still remains a major challenge.

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Abbreviations

ARD	Agriculture and Rural Development
CB GEM	Community Based Governance – Extension – Market Project
CDF	Commune Development Fund
DARD	Department of Agriculture and Rural Development (Province)
DoF	Department of Finance (Province)
DPC	District People's Committee
DPI	Department of Planning and Investment (Province)
ETSP	Extension and Training Support for Forestry and Agriculture in the Uplands
GoV	Government of Vietnam
GRDD	Grassroot Democracy Decree
HB	Hoa Binh Province
MARD	Ministry of Agriculture and Rural Development
MoF	Ministry of Finance
MPI	Ministry of Planning and Investment
NAEC	National Agriculture Extension Centre
ODA	Official Development Assistance
P135	Programme 135
PAR	Public Administrative Reform
PPC	Provincial People's Committee
PPMU	Provincial Project Management Unit
PPSC	Provincial Project Steering Committee
PPSP	Plant Protection Service Points
RAS	Rural Advisory Services
SEDP	Socio-Economic Development Plan
SPAR-CB	Supporting Public Administrative Reform in Cao Bang Project
SDC	Swiss Agency for Development and Cooperation
VSP	Veterinary Service Points

1. Country context of the project intervention

In the last two decades, Vietnam has experienced remarkable economic growth and reached middle-income country status in 2010. The country reduced its poverty rate from nearly 30% in 2002 to 11.3% in 2013³. Vietnam's economic development seems unbeaten in comparison to neighbouring countries. In the last five years, Vietnam's GDP doubled and analysts forecast the annual GDP to accelerate to an average of 8% in the period from 2012 to 2015. Vietnam has already attained five of its ten original Millennium Development Goal targets and is well on the way to reach two more by 2015.

However, considerable shortcomings remain. Poverty rates are much higher in rural than in urban areas, particularly in mountainous regions with a high proportion of ethnic minority groups. Among the ethnic minority population, food insecurity and hunger are widespread, with nearly 30% considered "food poor"⁴. The North-western mountain region has the highest poverty incidence; it stands at 43.8%, compared with the national average of 18% for rural areas⁵.

Integration in the global market – Vietnam acceded to the World Trade Organization (WTO) in 2007 – made the country more susceptible to phenomena like the recent global financial crisis and the consecutive economic recession. Because of attaining lower middle-income country status, Vietnam's official development assistance (ODA) profile has changed. Some donors have expressed to either phase out their traditional ODA or shift to concessional loans. Decreasing ODA, less demand for Vietnamese products, large trade deficits are factors with a disproportionate impact on the poor. In addition, one of the impacts of the global economic crisis has been a decrease in government budgets for vulnerable groups in less advantaged areas. The risk to fall back into poverty is high in the event of crises caused by unemployment, extreme disasters due to climate change, or price fluctuations.

In the last 20 years, Vietnam's politics and society have gradually evolved towards greater openness and space for civil participation. Despite this progress, equitable opportunities for citizens to participate in governance are still limited. (Quote from Annual Report Helvetas Swiss Intercooperation Vietnam: 2013)

Politically, Vietnam remains stable. In 2011, the Communist Party of Vietnam held its 11th national congress. The new government will implement the National Socio-Economic Development Plan for the Period of 2011 to 2015, which has a strong focus on stability and sustaining growth.

³ Source: World Bank, 2013

⁴ In Vietnam, the food poverty line is customarily set as the cost of a food basket allowing a daily intake of 2,100 calories.

⁵ Poverty incidence is the percentage of people living below the poverty line.

2. The public RAS system in the two provinces Hoa Binh and Cao Bang before PS-ARD

2.1. Stakeholders of the public RAS system

Vietnam has a four-tier government structure: Provinces, districts and communes, while each commune consists of 4-20 villages. Governmental bodies from province to district level were the main implementers of the public extension system. Knowledge and fund transfer for extension services followed a cascade system, beginning at the provinces level. Before the project intervention, the following actors were involved in the public extension system of the provinces Hoa Binh (HB) and Cao Bang (CB).

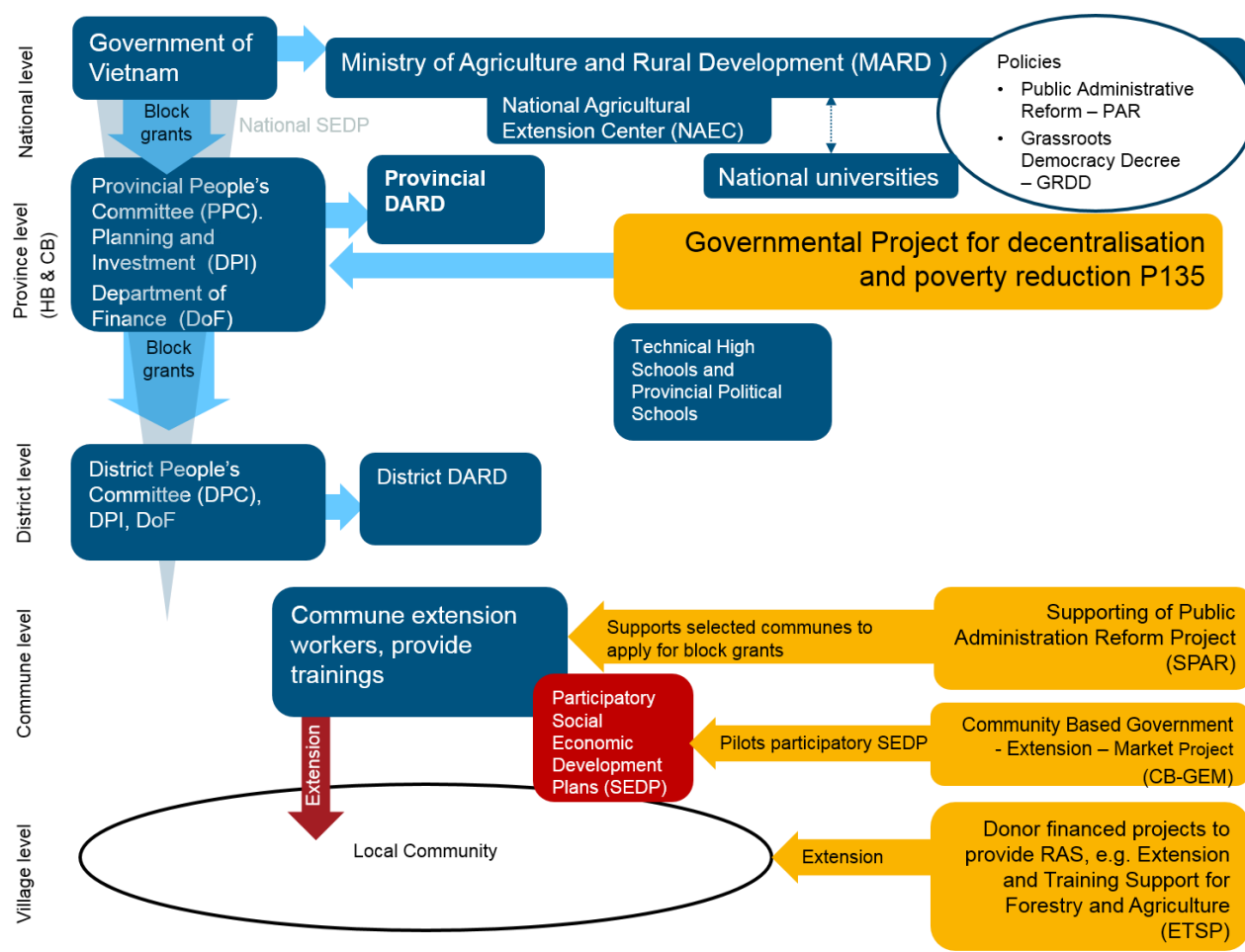


Figure 8: Stakeholders and fund flows of the public extension system before PS-ARD intervention. Blue – public institutions, funds and actors; yellow and red – project interventions of precedent projects. (Source: author's own figure)

- The central government provides grants for rural development to the provinces and decides about national agricultural development plans and strategies. The provinces decide about further transmittance of these grants.
- The Province and District People's Committees take the lead and decide over all activities within their provinces or districts. The Province People's Committee sets priorities for Social Economic Development plans (SEDP) that are then implemented by the communes.
- The Department of Agriculture Rural Development (DARD), the Department of Planning and Investment (DPI) and the Department of Finance (DoF) are situated at province level. These departments get funds from national and provincial administrative level. Further, the government project P135 for decentralisation and poverty reduction channels its finances for extension through the province departments to the districts.

- The district branches of the Provincial Departments receive government block grants for rural development, including extension services. The district extension officers provide extension to the communes, mainly in form of mass information events. These district extension workers are few, compared to the number of farmers interested in extension. Districts and provinces were reluctant to further provide block grants to the communes, since they considered the communes not able to manage such funds. In some pilot districts of CB, the SDC “Supporting of Public Administration Reform Project” (SPAR) piloted activities to support decentralisation of government funds.
- The communes were weak governmental structures regarding to extension provision and financial management. Some pilot communes already got support from SPAR programme and the Community-based Government-Extension-Market (CB-GEM) project to apply for block grants from higher administrative levels.
- The national and provincial technical schools were not part of the RAS system.
- Universities played a role at national level with a relatively weak link via MARD to the provincial DARD.
- The National Agricultural Extension Center (NAEC) was/is located within the MARD and approves new extension approaches and methods. Since only approved methods may be included into the provincial or district budget, the NAEC plays a powerful role in the national extension system.

2.2. Policies and the P135 Government Programme for Rural Development

The following programmes and policies served as a basis for the public administration and thus public extension provision.

Public Administration Reform (PAR)

A key component of the PAR is increased decentralisation of public expenditure and management to provincial, district and commune levels. While PAR enhanced efficiency through leaner organisations and simplification of administrative procedures in public institutions, little attention was paid to the opinion and perception of the service users, the citizens, especially the farmers (ProDoc II: 2011).

Grassroot Democracy Decree (GRDD)

The GRDD promotes decentralisation of administration and finances, which is constrained by complex procedures and low capacity of commune level administration. Hence, despite the GRDD, the people were further denied their - in theory guaranteed – rights to participate in planning, implementing and evaluating activities of their concern and in their locality. (PS-ARD 1: 2011)

Programme 135 (P135)

P135 is a large poverty reduction programmes of the GoV that was designed in 1997 by the GoV with technical support from the UN and World Bank. Most of the funding for P135 sources from GoV, while some donors have provided budget support in the past and currently provide technical assistance. The overall objectives in both phases are: i) to radically accelerate production and promote market-oriented agricultural development; ii) to improve the sociocultural life of ethnic groups iii) to eradicate hunger in the targeted areas and reduce the poverty rate to below 30%. (UN: 2008)

3. SDC contributions to the public RAS system

3.1. Background of the PS-ARD programme

The Swiss Agency for Development and Cooperation (SDC) has supported natural resource management and rural livelihoods in Vietnam since 1994. First, the Social Forestry Support Programme (1994 – 2002) successfully introduced social forestry as a subject in the Vietnamese universities education system. In 2002, SDC decided to shift the focus from academia to agricultural extension through the Extension and Training Support Project (ETSP; 2002-2007). PS-ARD is the follow-up project of ETSP, which was combined with two other precedent projects. With this combination SDC/Helvetas aimed at increased effectiveness of the interventions. Compared to ETSP, which focused on extension delivery, PS-ARD intervened with the aim to improve local good governance.

The three precedent projects all developed and piloted community-based approaches to support the decentralisation process as proposed by the PAR, and aimed at strengthening rural advisory services:

- 1) **The Extension and Training Support for Forestry and Agriculture in the Uplands (ETSP)** developed and piloted comprehensive training modules for adult learning on natural resource management in the Provinces Dak Lak, Thua Thien Hue, and Hoa Binh. (ETSP ProDoc: 2002)
- 2) **The Supporting of Public Administration Reform Project (SPAR)** focused on supporting local government structures in CB to apply for and implement block grants for commune development (SPAR ProDoc: 2004)
- 3) **The Community Based Governance – Extension – Market Project (CB GEM)** strengthened the capacities of 24 communes in CB with focus on participatory development and management of community plans. (CB GEM ProDoc)

3.2. The PS-ARD programme

In its first phase, PS-ARD tested the approaches piloted by the precedent projects in selected districts of the Provinces Hoa Binh (HB) and Cao Bang (CB). In its second phase, PS-ARD aimed at mainstreaming the approaches in all districts of HB and CB. It is expected that in a post programme phase, the government departments will fully apply the approaches as standard in the entire provinces based on annual allocation of provincial budgets. (ProDoc II: 2011) With this, PS-ARD aimed to pass the long-term partnerships between SDC and the provinces through the full cycle from piloting to mainstreaming as shown in the subsequent figure.

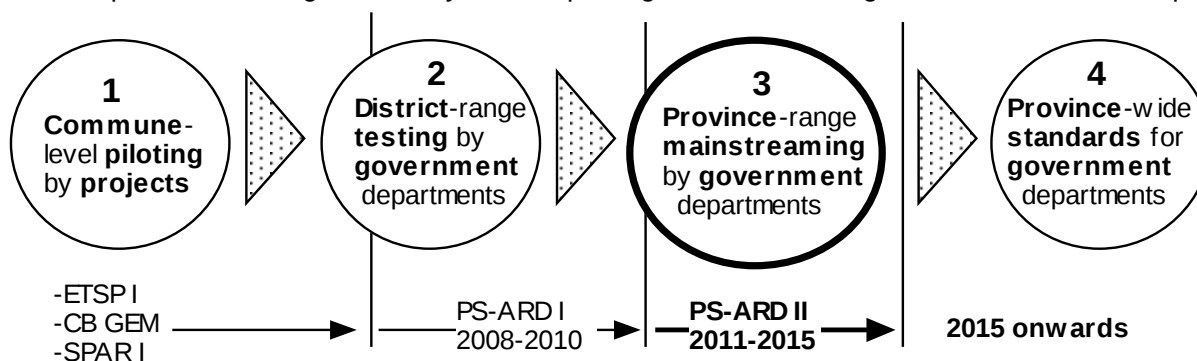


Figure 9 PS-ARD plan to mainstream approaches piloted by ETSP, CB GEM and SPAR projects. (ProDoc: II: 2011)

The **PS-ARD project goal** is “to contribute to province- and district-wide mainstreaming of participatory local planning, financial decentralisation and improved public service delivery in agriculture, in order to reduce poverty and improve livelihoods in disadvantaged areas of Hoa Binh and Cao Bang provinces” (ProDoc II).

The project was designed to address the demand and supply side of services in a comprehensive manner. It built on three pillars:

- 1) To strengthen communes in participatory planning (Socio Economic Development Planning (SEDP)) and financial management.
- 2) To develop capacities of the public service delivery system in agriculture and rural development to become more effective and responsive to the requirements of farmers.
- 3) To foster a system of decentralised financing through a commune development fund (CDF) and by building communes capacities for financial management.

Learning: PS-ARD combined contributions to demand-side planning, supply of RAS, and allocation of fund flows. It thus included the fundamental factors of an extension system.

The programme was implemented from 2008-2015 by the Provinces HB and CB, as well as by the Organisational and Personnel Department (OPD) under the Ministry of Agriculture and Rural Development (MARD). While the OPD acted as national owner of the programme, SDC through Helvetas provided technical assistance and finances to the provinces, districts and communes.

3.3. Relevance of the PS-ARD programme

Despite Vietnam having achieved the status of a middle-income country at the end of 2010, the agricultural sector (including forestry and fishery) still accounts for 20% of the GDP and employs more than 60% of the labour force.

The early years of Doi Moi left a massive surge in agricultural growth. Smallholders with less than two hectares of arable land, which are the predominant production systems in remote and mountainous areas, face particular challenges regarding to agricultural efficiency. For these farmers, access to information, services and markets is still limited and subsistence farming prevails among many poor households.

Farmers' expectations to be provided with subsidies remain. While changes towards a farmers based approach can be observed in most public service agencies in the rural areas, a strong tendency prevails for achieving production targets and providing top down messages to influence rather than to advice farmers. The concept of providing farmers with specific information on new technologies, new seed varieties, and market developments allowing them to weigh advantages and shortcomings of different production strategies, has not yet taken root among government service providers, particularly in the remote and mountainous regions of Northern Vietnam." (Cited from ProDoc II).

The project thus saw a need to change, on the one hand, farmers attitude towards RAS beyond the expectations for subsidised input supply, and on the other hand, the mind-set of service providers to go beyond the mere dissemination of production targets. This required better and technical skills of government staff with regard to extension delivery approaches, agricultural technologies, and household economics, to enable them to provide farmers with appropriate information and advice (ProDoc II). The objectives of PS-ARD to strengthen the communes and the public services in decentralised planning and financing of rural development are thus considered relevant.

4. PS-ARD contributions to the public extension system

This chapter describes the project's contributions to the public RAS system. The interventions took place in the Provinces HB and CB, which are both mountainous areas with a considerable share of ethnic minorities, high incidence of poverty and limited private sector involvement. Analysing PS-ARD's contributions to the extension system, one has to consider that PS-ARD is not like its precedent ETSP project, a RAS project, but a governance project. PS-ARD has the objectives to empower rural citizens to express their needs and priorities, to capacitate local authorities to manage development funds in order to respond to citizens' needs (including the provision of RAS), and to anchor this new system in government procedures. It thus approaches RAS not from a service delivery perspective, but strengthens the anchoring of RAS in government procedures and within local communities.

The following actors are involved in PS-ARD project activities:

Learning: The project approaches RAS through increased participation in governance: PS-ARD empowers rural citizens to express their needs and priorities, it capacitates local authorities to manage development funds in order to respond to citizens' needs (including the provision of RAS) and anchor this new system in the government procedures.

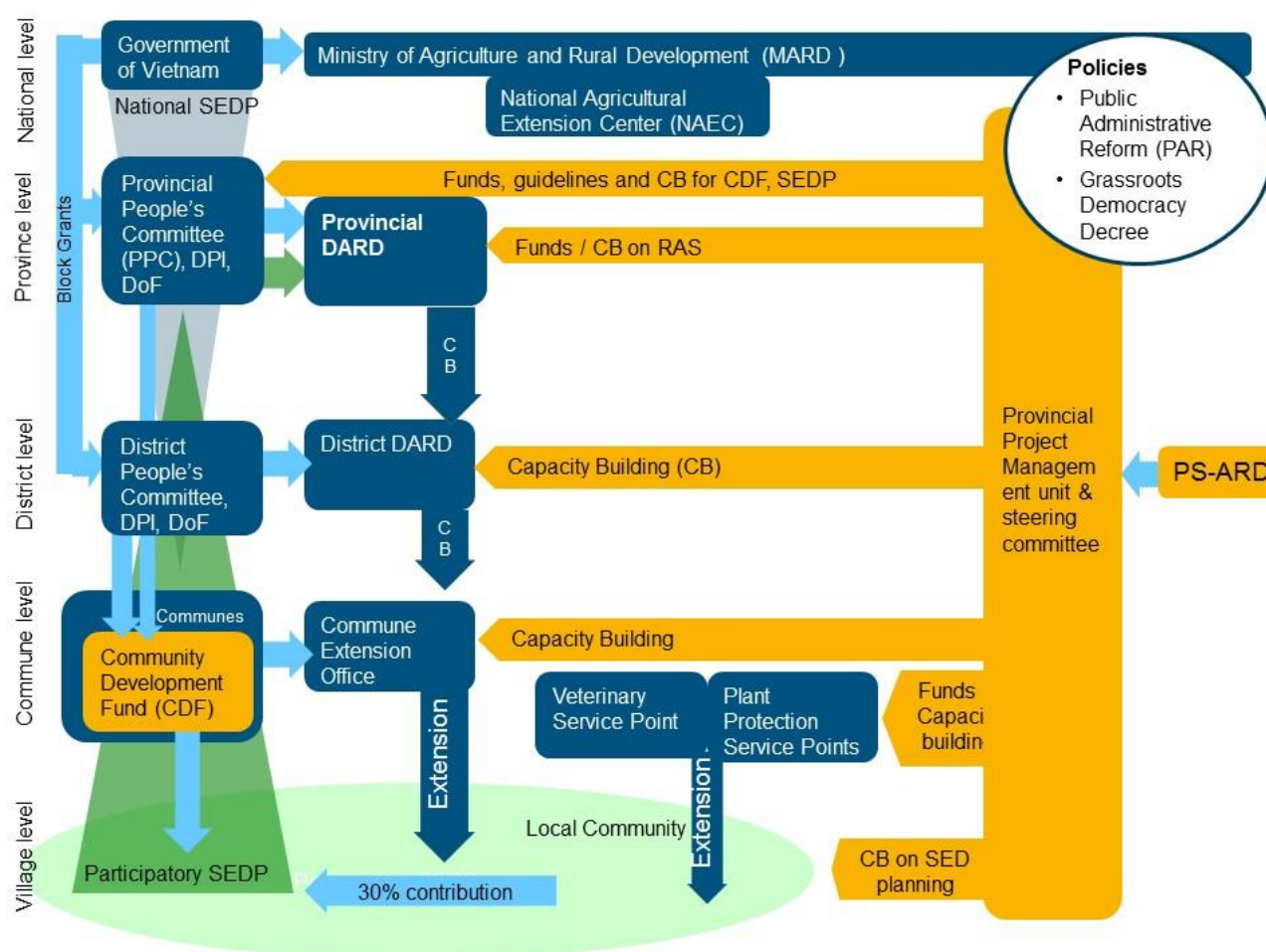


Figure 10: PS-ARD contributions to the public RAS systems. Blue = government institutions, green = local community and their activities, yellow = project contributions, turquoise = fund flows. (Author's own figure).

- The Provincial People's Committees (PPSC) are official owner of the PS-ARD project activities and are involved in all project related decisions.
- The Department of Agriculture Rural Development (DARD) is responsible for RAS delivery and capacity building of RAS actors. PS-ARD trained master trainers for agricultural extension which are located at the provincial DARD. These master trainers train staff at district level, who then train commune extension staff.
- The Department of Planning and Investment (DPI) and the Department of Finance (DoF) approve development plans including RAS delivery and manage the respective budgets.
- The Provincial Steering Committees and the Provincial Project Management Unit (PPMU) provide technical assistance to the administrative bodies from commune to province level. Both units will be dissolved with the project ending.
- In order to allow hands-on training for financial management, SDC introduced a Commune Development Fund (CDF), which communes use according to their Social Economic Development Plans (SEDP). The CDFs are channelled from the provinces via districts to the communes. Communes have the opportunity to use the CDF as to their preferences. Interestingly, communes use the CDF mainly if not exclusively to finance infrastructural project, and do not allocate the CDF for agricultural extension. (Smith: 2015)
- The provincial bodies complete the CDF with their own funds and with grants provided from the central GoV, including P135 funds.
- The project strengthened the communes and villages in participatory SED planning, CDF investment and RAS provision. Since communes consist of several villages that each set preferences for commune SEDPs, the communes (CDF) cannot finance all activities proposed through participatory SEDP processes. It is up to the communes to set priorities regarding the CDF investments. PS-ARD also supported the communes to ensure that beneficiaries contribute 30% of the CDF investments for infrastructural projects. These contributions are provided mainly in form of labour or local materials.
- The national and provincial technical schools were included into the RAS system in the beginning of the project. Technical schools were mandated to build capacities of province and district officials on participatory SEDP, CDF, and marginally also on the farmer field school (FFS) approach. Today, there are enough trained officials working in the government departments. These officials now work as master trainers to build capacities of province and district officials.
- The public extension offices are the main extension provider in the country. The public extension system consists of provincial and district extension offices under the DARD, as well as of extension workers at commune level. The commune extension workers sell agricultural inputs and provide related advice, whereas the district extension centre leads trainings for farmers.
- Semi-governmental Plant Protection Service Points/Groups (PPSP/PPSG) and Veterinary Service Points (VSP) are other relevant public RAS actors. These service points are situated at district level and provide specific individual services on request. The project supported both, the extension network and the PPSP and VSP with capacity building and finances.

Learning: if the decision is left to the communes how to use public finances, they prefer investing it in infrastructures rather than in extension services or capacity building.

Learning: PS-ARD based all its contributions on the idea to translate the existing policies into action – an effective contribution regarding to institutionalisation.

4.1. Contributions to policies and institutional development

PS-ARD programme acts in the policy framework of PAR and GRDD, which both support decentralisation of administration and finances to the commune level. PS-ARD did not directly advocate for new policies, but it invested heavily in translating the existing policies into action. E.g. it translated the GRDD in ethnic minority languages and spread it with innovative means („gender caravans“, village theatres etc.).

PS-ARD supported the elaboration and institutionalisation of participatory planning procedures (SEDP), guidelines for financial management of CDF and methodologies extension provision, such as Farmer Field Schools (FFS). Further, PS-ARD conducted training courses on the elaborated procedures and offered a complementing on-the-job training for government officials. These programme activities were all carried out by

government officials with the ultimate goal to develop “products” that become part of the standard governmental system.

In order to mainstream the piloted models (CDF, FFS, participatory SEDP), PS-ARD contributed to their institutionalisation at province and national level as follows:

- In CB and HB Province, PS-ARD made sufficient resources available for a Support Unit that technically supports provincial government structures to implement the CDF, FFS and SEDP and train the respective district and commune structures.
- PS-ARD developed communication and information material on the approaches to support national policy dialogue of SDC with evidence from the field.
- PS-ARD programme staff participated in national level PAR working groups and brought in lessons learnt from the field to advocate for local planning models at national level.
- PS-ARD supported organisational reforms in the DARD, resulting in clearer roles and responsibilities between province and national level agencies. (ProDoc II: 2011)

Learning: All contributions to national policy dialogue were based on field experiences in the frame of pilot projects.

4.2. Financial Contributions

SDC financed PS-ARD with around USD 11 million. A core objective of the PS-ARD programme was to establish minimum financial management standards in order to allow for the envisaged decentralisation of finances for commune development. To this end, PS-ARD provided a great part of its budget to the establishment of a Commune Development Fund (CDF) that allows investments in infrastructure and RAS as proposed by Social Economic Development Plans (SEDP). 74% (~\$ 8.5 Mio) of the total programme budget was spent to the CDF.

Learning: Hands-on training for financial management, combined with participatory SEDP allowed for mainstreaming commune development funds.

A condition to receive SDC support to the CDF was that beneficiaries provide minimum 30% to the CDF themselves (generally in form of labour and local materials). Further, the project aimed at a continuously increasing the contribution of the provinces to the CDF, up to a decentralisation of 40% resp. 30% of provincial funds in HB resp. CB (MTR: 2013).

HB has own provincial funds to sustain its support to the CDF. The situation is different in CB, where the main source of government contributions to the CDF is P135. During the project, the province itself supported CDF with its own funds. However, in CB, it now proves difficult for communes to stay owner of funds. It seems that there is little interest of provinces and districts to decentralise their funds through the CDF, and finances are often kept at district or province level. That is why, PS-ARD currently only works in target villages of P135 support and there strengthens the communes to effectively allocate P135 funds. In areas outside P135 area, the project currently sees little chance for communes to allocate funds for the CDF.

Learning: Continuously decreasing donor funds and increasing government funds ensures the GoV interest in the proposed methodologies.

Compared to the contributions to the CDF, the programme spent with 3% of the total programme budget relatively little to capacity building on commune financial management (CFM). However, in combination with the hands-on training that became possible through the CDF, this contribution could improve the financial management capacities of the communes.

14% (~\$ 1.5 Mio) of the programme budget accounted for capacity building and mainstreaming of RAS methodologies, mainly the FFS approach and for RAS provision. While the project covers 100% of the costs for capacity building (trainings for trainers) on RAS methodologies, the government considerable contributes to FFS. In 2014, HB province paid VND 1,007,292,000 and SDC contributed VND 1,337,460,000. The province thus covered 42% of total FFS costs. In 2014, the Province CB contributed USD 39,806, while SDC covered USD 165,459 of the FFS costs. This results in a province contribution of 19%. In the extension phase, the project fully phases out its support to RAS capacity-building activities.

Over all phases, PS-ARD spent around 9% (~\$ 1 Mio) of its budget for capacity building and for the implementation of local SEDP. In phase II, the provinces contributed 51% in HB, respectively 17% in CB to the SEDP, what reflects the provinces' interest and financial capacities in implementing such planning tools.

Aspects of contributions	Phase I		Phase II			Extension 2015 (assumption)		
	SDC & GoV	SDC %	SDC & GoV	SDC %	GoV %	SDC & GoV	SDC %	Gov %
SEDP	261'601	100%	1'136'492	59%	41%	215'870	34%	66%
<i>Cao Bang</i>	163'463	100%	322'140	83%	17%	95'218	30%	70%
<i>Hoa Binh</i>	98'138	100%	814'352	49%	51%	120'652	38%	62%
CDF *	2'193'523	100%	7'695'105	71%	29%	3'196'996	20%	80%
<i>Cao Bang **</i>	954'266	100%	3'192'400	88%	12%	2'354'567	17%	83%
<i>Hoa Binh</i>	1'239'257	100%	4'502'705	60%	40%	842'429	27%	73%
CFM	45'149	100%	430'049	74%	26%			
<i>Cao Bang</i>			112'112	100%				
<i>Hoa Binh</i>	45'149	100%	317'937	65%	35%			
RAS Services	316'208	100%	1'493'857	81%	19%			
<i>Cao Bang</i>	200'964	100%	618'616	86%	14%			
<i>Hoa Binh</i>	115'244	100%	875'241	78%	22%			
Total	2'816'481	100%	10'755'503	72%	28%	3'412'866	21%	79%

Table 6: The real SDC and Government contributions in phase 1 and phase 2 and the assumed contributions in the extension phase. (Adapted from project budget 2014)

Effects: By establishing the CDF and by capacitating commune cadres to manage the CDF, the project created an opportunity to develop and pilot financial planning and management standards in the supported communes. These standards later were harmonised with the standard governmental system, and finally mainstreamed in the entire provinces. With that, the government contribution to the CDF continuously grew from zero in the first phase, to 40% (~ \$ 2 Mio) in Hoa Binh respectively to 12% (~\$ 310'000) in Cao Bang in the second phase. An increasing contribution is expected in the extension phase. According to the MTR (2013), in HB a total of 27.677households (hh) (8532 poor hh) and in CB a total of 4746 hh (39% poor) directly benefitted from CDF investments.

The provinces contribute 41% of the costs for local SEDP and 19% of the costs for RAS. Although these financial contributions are small compared to other ODA programmes, PS-ARD succeeded to enhance the financial management capacities in a hands-on manner, and to increase ownership and autonomy of the communes through the CDF and SEDP. With its strong focus on government financial contributions to all activities, the project strengthened sustainability of financial planning and management at commune level. (ProDoc II: 2011)

The CDF investments had further direct positive impacts on livelihoods of most of over 80% of the villagers through improved infrastructure and RAS (MTR: 2013).

4.3. Contributions to advocacy capacities

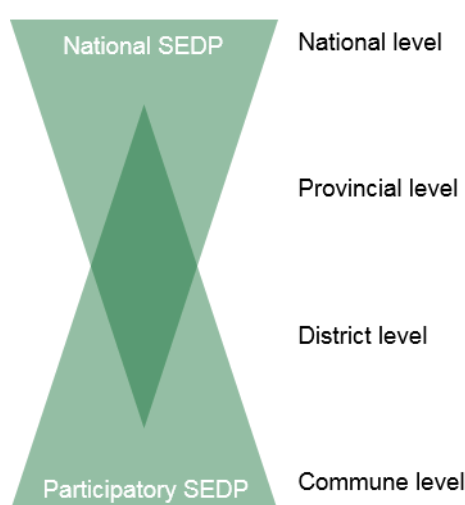
9% (~USD 1 Mio) of the total project budget was allocated for participatory commune planning and related capacity building activities in order to increase voice of the citizens on commune level. In total, the project supported participatory SEDP development in all 210 communes in HB, and in 62 communes in CB (additional 50 communes in CB were supported by an IFAD project in collaboration with PS-ARD) (MTR: 2013). From 2014 onwards, PSARD supported participatory SEDP development in all 199 communes in Cao Bang.

Learning: Only the combination of SEDP with and adequate financing mechanism – here CDF - made the SEDP a tool with a real impact.

With these funds, the project introduced participatory SEDPs at commune and district level and integrated planning processes of six government sectors into one community SEDP. The challenge but also one of the main achievements was the dovetailing of national plans (with production targets in a communist system) with participatory bottom-up planning where rural citizens including the most disadvantaged can express their needs and priorities; also regarding the provision of RAS.

Learning: Dovetailing national action plan with participatory SEDP was a challenge, but considerably provides voice to citizens and fosters the system's capacity of being demand-driven.

Effects: Through the CDF the communities got the opportunity to carry out small-scale investments as decided by the SEDP. With the introduction of the SEDP and the CDF the project strengthened advocacy capacities of villages to implement activities as to their preferences. Currently, in Hoa Binh and Cao Bang the SEDP process is funded from the Government's own budget, not through donor funds and this has a high chance of being sustained beyond the life of PS-ARD.



While the participatory SEDP is a good tool to raise initiative at commune level, the long-term sustainability of such participatory SEDP will depend on the commitment of higher administrative levels to respond (financially and ideologically) to these plans, either through dovetailing of the participatory SEDP with national SEDPs or through decentralisation of funds to commune level. A fundamental contribution of PS-ARD to the sustainability of the participatory SEDP is the putting in place of relevant legal documents for such continuous dovetailing of national and participatory SEDPs.

A main strength of the SEDP is the integration of several spheres into one comprehensive plan and thus the ultimate simplification of planning process. However, "considerations regarding financial feasibility reduced the planning exercises and reduced the costs of in depth problem analysis and identification of

appropriate solutions. The result is that commune SEDPs do reflect the needs of their citizens as to their best knowledge, and because of this, commonly are a summary of little differentiated activities mainly aiming at increased production (less at economic viability) which are known to be supported by the government." (MTR: 2013). A respective answer would be the introduction of trainings that strengthens the villagers understanding of economic feasibility and Rapid Market Appraisals in order to understand market potentials of specific interventions. Such trainings have not yet taken place.

Learning: Simplification of participatory planning processes through the integration of several thematic spheres into one plan, in this case strengthened the power of the planning tool and thus voice of citizens.

4.4. Contributions to the RAS design

The main contribution to the RAS design, is the integration of RAS into the participatory SEDP mechanism. With that, PS-ARD succeeded in establishing a tool that empowers villagers to take part in RAS planning and thus renders the system demand-driven.

By fostering decentralisation of funds through the CDF, PS-ARD supported the implementation of the participatory SEDPs thus strengthens the system's potential to react on farmers' needs.

Effects: In average, 70% hh in a village contribute to the participatory SEDP and thus have the opportunity to articulate their needs for RAS and rural investments (MTR: 2013).

A relatively minor project contribution in terms of finances (total USD 50'000) is the support of RAS service delivery through Veterinary Service Points (VSP) and Plant Protection Service Points/Groups (PPSP/PPSG). The project has supported some initial setup costs including equipment, medicines, and training of staff. Currently, the government is supporting some ongoing costs. However, only some PPSPs and VSPs have managed to generate revenues, and not all are self-sustaining at present. Since the government aims at privatisation of these

service centres, the centres more and more rely paying clients or project contributions. In particular, in HB, service centres have difficulties to gain paying clients, seeing the growing private sector input supply for crops and animal husbandry, and the Districts providing free advice to farmers. In CB service centres face less competition and people are rather ready to pay for such services.

Effects: Currently, 139 VSPs and 159 PPSPs are in place (MTR: 2013). These centres have enabled important disease protection services to be delivered directly to farmers in a timely manner.

4.5. Contributions to capacity building of extension staff

Trainings and training cascade

One of the biggest challenge for RAS delivery remains the availability of qualified field workers, able to provide comprehensive and need-based extension services. According to GFRAS (2014), one field worker covers in average 280 farmers throughout Vietnam. In order to increase capacities of these field workers, PS-ARD assessed the needs for training and developed and implemented capacity building plans for extension staff. As result, 90 district and provincial staff and 628 staff of 199 communes have been trained on participatory SEDP, its monitoring and evaluation (PS-ARD D: 2014). About 40% of all service providers at commune level (FFS trainers and VSP/PPSP staff) have been trained by the provinces with support of the project and increased their technical knowledge and methodological. However, the commune extension workers' capacities are still limited in particular due to high fluctuation of staff and lack of continuous training opportunities. Although the provincial DARD and district extension centres are expected to provide and facilitate such continuous training in the future, there are yet no plans for its implementation (Kaegi: 2015).

Contributions to the agricultural knowledge system

The agricultural knowledge system is based on a top-down knowledge dissemination cascade. The national governmental bodies have functioning linkages to agricultural schools, universities and districts extension bodies and advise them to disseminate (selected) knowledge and innovation. National and provincial agriculture extension centres train district extension workers, which further transmit their knowledge to commune extension and veterinary workers. There are no direct linkages between research institutions and the district or commune level. Newly emerging private companies bring in additional knowledge and innovation into the agricultural knowledge and innovation system. However, these companies focus on better off farmers in productive areas, which are relatively rare in the PS-ARD focus provinces (Ngo: 2014). Further, private companies are yet not significantly involved in trainings but focus on input provision only (Smith: 2015).

In order to strengthen the agricultural knowledge system, the project built capacities of provincial schools to further train staff of the DPI, DoF and DARD on FFS, CDF management and SEDP.

Effects:

- At provincial level, the two Technical and Economic High Schools and the two Provincial Political Schools are now better equipped to fulfil their role in building capacities of future civil extension workers.
- Technical schools in CB improved their internal structures and client orientation resulting in an increased enrolment rate by 60%.
- Learner centred teaching methods are now applied by 80% of the teachers in about 50% of the teaching period.
- New training modules, subjects and topics have been developed for more than 50 topics / subjects in short and long-term training courses using participatory curriculum development.
- The topics SEDP, Commune Financial Management, Marketing-Extension, FFS and PTD have been integrated into the curricula of the schools, ensuring sustainability in the capacity building of future civil servants.

Despite these successes, the absorption capacity of some provincial schools to apply new educational contents and methods remained low.

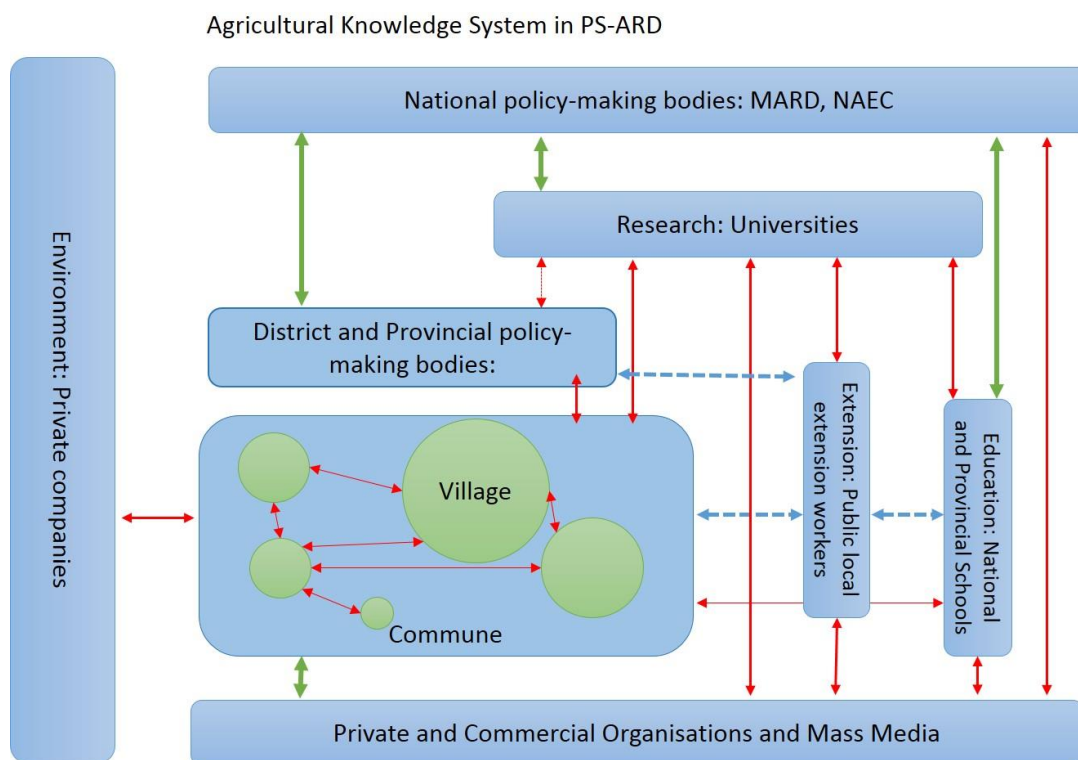


Figure 11: The Agricultural Knowledge System after the project intervention. Lively linkages are green/fat, weak or absent linkages are red/thin, linkages supported by the project are blue/broken lines. (Author's own figure, based on Agridea (2006)).

4.6. Contributions to RAS contents and methods

The project supported decentralised public RAS delivery on the basis of Farmer Field Schools (FFS). The innovation regarding to advisory methods is definitely the mainstreaming of the FFS. Considering the top-down and production driven approach of public extension services that bases on mass instructions, rather than on advice to farmers, the FFS method signifies a fundamental change in the public extension system. Through FFS, extension staff is encouraged to actually provide advice instead of disseminating top-down propagation messages or simply collect statistical information, as has been the case for long time. (ProDoc II: 2011)

Already the previous SDC/Helvetas project ETSP piloted and tested best practices, such as FFS and Participatory Technology Development (PTD). With that, ETSP succeeded to get the approval of the National Agricultural Extension Center for these technologies. On the basis of that, PS-ARD still works towards institutionalisation of the FFS extension approach in the two Provinces HB and CB. In the project's last phase, an extension policy regulating FFS as main methodology for public extension provision has been approved by provincial structures (PS-ARD C: 2014). In these terms, the project brought the wide scale application of the FFS approach a considerable step further.

Learning: The combination of SEDP with FFS serves as a tool to investigate on farmers' training need and accordingly adapt the extension contents.

Advisory contents are defined through the participatory SEDP. The project did not directly train extension staff. It is the responsibility of provincial extension staff to build capacities of district and communal extension workers to deliver the required service.

However, the project collaborated with provincial and national technical schools in order to participatory develop (over 50) modules on CDF management, SEDP and marginally also on FFS and participatory technology development (PTD). The project strengthened the teachers' capacities in providing courses on these new topics and successfully worked towards integration of these topics into the curricula of Technical High Schools and Provincial Political Schools. (PS-ARD B: 2011; ProDoc II: 2011)

Effects: The FFS approach has been acknowledged at province level as the main approach for public extension provision. Through the combination of SEDP and FFS, training demands are now reflected in the commune SEDPs, and SEDPs are used by the extension services develop training plans for villagers. Extension staff appreciate the FFS approach as a practical and easy way to introduce new farming approaches.

Despite this success from an institutionalisation perspective, one have to note that the Vietnamese implementation of FFS differs from the original idea of participatory FFS that include agro-ecology, adult learning and empowerment. Furthermore, FFS require finances either from the village development fund, from district or province level. For the moment, the future availability of finances for FFS is uncertain.

4.7. Contributions to networking and coordination among RAS actors

PS-ARD decided to work exclusively through government agencies as implementing partners. With this, it strengthened government institutions to plan and provide RAS, and to coordinate public RAS actors. Yet, private sector is largely absent in remote areas, civil society is only slowly emerging, and the overall RAS system bases on the government extension staff, agricultural schools and some development project actors. Due to this limited pluralistic dimension of the RAS system the project did not focus on networking and activities.

Table 7: Pluralistic Dimension of the extension system supported by PS-ARD. (adapted from Anderson and Feder:(2014)

Source of finances for services	Service Providers		
	Public sector	Private Sector	Civil Society
Public	VET and PPSC/G Public extension service	VET and PPSC/PPSG	
SDC/other donors	Public extension service		
Private companies			
Farmers	Input supply of public institutions	Input supply of private companies	
Farmer Org.			

5. Effectiveness of the contributions: Up-take of the contributions by state actors, civil society and private sector

The project has been effective in **mainstreaming the approach of participatory SEDP** at province level. By mid-2014, 100% communes in Hoa Binh (210 communes) and Cao Bang (199 communes) applied participatory SEDP with budgets that the communes allocated from district and province structures, and form the project (PS-ARD: 2014). That high effectiveness is explained with the fact that SEDP was already institutionalised in province structures before the project intervention, but was managed in a top-down manner. Hence, the project did not introduce a new system, but focused on redesigning SEDPs in order to strengthen participation of the communes. The GDRR served as a basis and justification for this intervention.

In both provinces, the project was effective in **convincing the province and district governmental bodies to contribute to the CDF**. This was reached through conditional project financing that defined a minimum financial contribution of the provinces to the CDF.

In 2014, the province HB provided USD 2,446,760 and SDC provided USD 4,206,760 to local CDFs (Smith: 2015). This is 36% government contribution to the CDF. Currently, 87 communes of HB (out of 195⁶) allocate USD 10'000/commune/year for the CDF (see chapter 4.2).

In 2014, CB province contributed USD 490,440, and SDC contributed USD 3,885,812 to the CDF. Thus province contribution remained with 11% low. The reason for that is seen in the fact that CB has low potential to create own finances and thus depend on national finances. Since national finances vary frin year to year, the province CB is reluctant to promise finances for the CDF.

⁶ Source: <http://www.socongthuonghoabinh.gov.vn/default.aspx?ZoneID=355>

For the upcoming extension phase, the project sees difficulties to stimulate government finances for the CDF in CB. For the above-mentioned difficulties, PS-ARD decided to reduce contributions to CDFs and capacity building of communal staff to communes (total 62) that are situated in the P135 programme area. There, PS-ARD will strengthen communes' capacities to allocate P135 funds. However, there is a great risk P135 funds will be captured at province and district level and government structures show little interest to forward government funds to the communes (NGO: 2014B). This may constrain communal budget allocation in future.

Despite difficulties for fund allocation, until 2014, CDFs have directly benefited to a about 176,284 hh in HB (150,015hh) and in CB (26,269hh) mainly through small scale infrastructure investments and training activities (Ngo: 2015; MTR: 2013). Decentralising of funds increased local ownership of commune development plans and fostered local contribution to infrastructure projects: Beneficiaries contribute 30% – 35% mainly in form of work and local material. On the other hand, such increased ownership of the CDF and SEDP, also meant a challenge for the project that had to ensure quality and accountability towards donors, while in the same time lost its sphere of influence regarding quality standards and financial reporting of the administrative bodies.

The mainly successful introduction of the CDF system bases on three crucial project contributions:

1. The project strengthened the commune staff's capacities in financial management through trainings that were combined with hands-on exercises in managing small-scale CDFs.
2. The project first fully financed CDFs in selected villages in order to prove its effectiveness and feasibility to higher administrative levels.
3. The project combined the establishment of CDFs with SEDP, thus strengthened a demand-based use of the funds, and fostered transparency as proposed in the GRDD of the GoV.

Regarding to RAS, the project was effective in mainstreaming the FFS approach: In 2014, local extension workers conducted a total of 3004 / 1349 FFS covering a wide range of topics and reaching more than 75,000 / 33'500 farmers, respectively 9% / 6% of the population in the districts in Hoa Binh / Cao Bang (PS-ARD C: 2014). Many of these farmers benefitted through the FFS by increasing production/productivity (87%), decreasing diseases (85%), increasing product quality (84%) and easier sales of products (72%). (PS-ARD C: 2014) More than half of the FFS participants are women and almost all FFS participants are from ethnic minorities. 59%/15% of local people used services of VSP and PPSPs in HB/CB (MTR: 2013).

In the first phase of PS-ARD, the project obliged the communes to allocate a certain amount of the CDF to RAS provision. After the decision to let the communes set their own priorities of how to use the CDF, villagers, respectively village decision makers have clearly shown that they prioritise investments into infrastructure rather than extension. This may either be a sign of limited client-orientation of the public extension services or of the great need for infrastructure projects (Smith: 2014). The project was less effective in what concerns a result based payment system for RAS services. The government officers were reluctant to include financial incentives for extension workers to strengthen continuous adaptation of RAS to farmers' requirements.

Another challenge regarding RAS remains the definition of specific FFS topics. Defining FFS topics is part of the SED planning and thus integral part of the project activities. Since SED plans integrate several thematic subjects and do not exclusively focus on agricultural development, the FFS topics are often only briefly discussed in SEDP meetings. Thus, it finally turns out difficult to the extension departments to exactly understand the demand of villagers for FFS topics.

6. Efficiency of the contributions

This study calculates efficiency based on a very rough calculation dividing the total project costs (plus additional funds) by the number of farmers reached with RAS.

The project contributed a total of USD 11'217'445 to the whole system and reached minimum 110'000 farmers directly with extension through FFS. This results in an efficiency of USD 101 / farmer.

11'217'445 USD / 110'000 farmers = USD 101 / farmer

Since the project's focus was participatory planning and decentralised investments of funds, it makes sense to count only the project's contributions RAS and not the overall project costs. This results in USD 15 per farmer provided with RAS.

1'528'199 / 110'000 farmers = USD 15 / farmer

Since the project was successful in leveraging government funds for RAS delivery, the efficiency calculation should include also the government finances. This results in US 16 per farmer provided with RAS.

1'810'065/ 110'000 farmers = USD 16 / farmer

Table 8: Total SDC and GoV funds for the various aspects of the project implementation in the three project phases.(Source: own table based on Kim Yen Ngo PS-ARD 2014)

	Total SDC (USD)	Total GoV (USD)	SDC and GOV (USD)
SEDP	1'005'603	608'360	1'613'963
<i>Cao Bang</i>	461'308	119'513	580'821
<i>Hoa Binh</i>	544'295	488'847	1'033'142
CDF *	8'318'470	4'767'154	13'085'624
<i>Cao Bang **</i>	4'169'365	2'331'868	6'501'233
<i>Hoa Binh</i>	4'149'105	2'435'286	6'584'391
CFM	365'173	110'025	475'198
<i>Cao Bang</i>	112'112	-	112'112
<i>Hoa Binh</i>	253'061	110'025	363'086
ARD Services	1'528'199	281'866	1'810'065
<i>Cao Bang</i>	733'336	86'244	819'580
<i>Hoa Binh</i>	794'863	195'622	990'485
Total	11'217'445	5'767'405	16'984'850

7. The sustainability and effectiveness of the public RAS system after the project contributions

7.1. Sustainability of the RAS system

Two facts strengthen the sustainability of the RAS system:

- 1) The **FFS approach is institutionalised** at province level because it is considered the most effective method to provide public extension in the two provinces – although FFS are more expensive than the former information provision in the form of mass teachings.
- 2) The government provided public extension already for long time and is expected to continue doing so, but now through FFS.

Against this backdrop, the sustainability of the RAS system relies mainly on **RAS providers' capacity to react on farmers' demand** and on the **availability of finances**.

The combination of RAS with participatory SEDP and CDF increases the government's capacity to get to know farmers' demand and to invest accordingly. Regarding to financing, the allocation of government funds for participatory SEDP is a sign that the government has a genuine interest in participatory SEDP: Currently, the Government of HB finances 40% of the CDF, and in CB, P135 foresees that 30% of P135 funds are decentralised to commune level for production improvement activities. However, up to now, there has been little progress in implementing this decentralisation in CB.

Without a financial backing for participatory SEDP, these plans and their implementation are not more than an administrative burden. Thus, the sustainability of the SEDP and CDF that are the basis for the RAS system depends on government's efforts to implement the foreseen decentralisation of P135 and other government funds. And finally, if funds are made available, it is up to the villagers how to invest these funds: as shown above, many villages prefer investing local funds for infrastructure rather than for RAS.

Learning: From the very beginning, the project aimed at a relatively high government contribution to the CDF and in the same time strengthened the capacities of communes to allocate and manage these funds.

8. Effectiveness of the RAS system and the project's contributions

This study defines effectiveness of the RAS system as the sum of all effects that the extension services have on producers.

This chapter mainly bases on the PS-ARD satisfaction survey that has been conducted in the two provinces HB and CB in 2008 and 2010 (PS-ARD: 2010). The satisfaction survey as such is a unique approach to assess effectiveness of the project contributions. The survey worked with comparative groups to assess farmers' access to and their satisfaction with public RAS providers, as well as their participation and satisfaction with participatory SEDP and use of finances.

Learning: The satisfaction survey with statistic significant samples and comparative groups is a strong and innovative tool to assess effectiveness of project contributions.

Economic effects

Only few statements can be made with regard to the system's impact on household economy. In the satisfaction survey (2010), 50-80% of the interrogated farmers state that the quality of the RAS has increased. This is due to increased input supply, such as new seed varieties, fertiliser and animal breed, and thanks to improved technical guidance. One may conclude that if farmers are more satisfied with the services, they also have an economic benefit of these services.

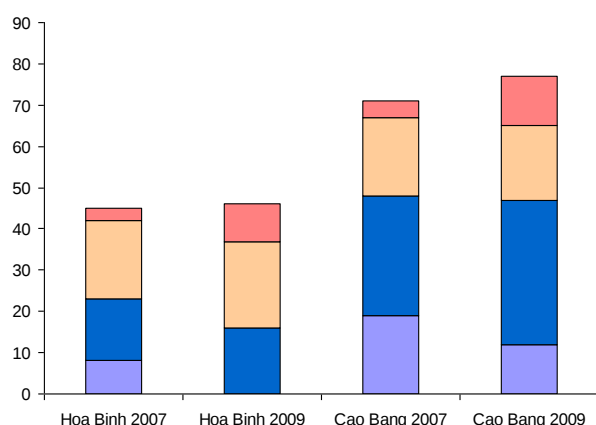


Figure 12: Number of sampled households suffering food insecurity in Cao Bang and Hoa Binh Province, in 2007 and 2009 (sample size 200hh in each province). Source:

With regard to the programme's impact on poverty reduction, it was observed that the poverty rate of the two districts reduced over the last two years, however the percentage of poor households in the sample for the satisfaction survey (2011) did not.

It is difficult to attribute observed changes in food security to the improved extension system. The survey of satisfaction (2010) assessed food security at household level with the result that the problem of food insecurity has not been addressed successfully with RAS, CDF and SEDP. In Hoa Binh, a total of 45/46 hh out of 200 sampled hh in 2007 and 2009, respectively, stated that they lack one or more months food, with an increase of those hh with food shortage of three months and more. In CB, the number of food insecure hh increased from 71 hh in 2007 to 77 in 2009 (out of 200hh). This demonstrates that the current approach is a mainstream approach and risk to not target sufficiently marginalised groups.

Ecological effects

The project has not directly targeted and monitored ecological aspects of the promoted agricultural production. There is a chance that the demand of farmers for services emphasizes intensified production rather than improved ecology of the production system. Further, the extension system strives to foster access to and adequate use of chemicals. However, it would be ignorant to state that this resulted in negative or positive ecological effects.

Social effects

The introduction of CDFs and participatory SEDPs had fundamental social effects in terms of giving voice to citizens at village and commune level: With the SEDP citizens are given a framework to define RAS contents. In 2011, over 50% of hh found their proposals for infrastructure and RAS projects reflected in the SEDPs. By complementing the SEDP with the CDF, the system has a tool to include citizens into decision making processes related to socio-economic development. If CDF investments reflect SEDPs, both tools foster ownership and thus contribution of local citizen to investments – a social effect caused by greater participation.

Participation in SEDP and satisfaction with services

In HB, participation in SEDP planning meeting increased distinctly from 14 % hh of the sample in 2007 to 99% hh in 2009. In CB, the participation in such meetings also increased from 88% to 100%. In 2009 in HB, the majority of hh participating in the planning meetings claim that the resulting activities reflect their demand in

contrast to only 70% in 2007. 10% of the sampled hh claim that activities reflect their demand in 2007, while this increased to nearly 60% in 2009. In CB, the percentage of sampled hh claiming that the activities reflect their demand increased from 20% to 70% between 2007 and 2009 (see Figure 6) (PS-ARD: 2010). In districts without programme support, participation in planning meeting remained low (19% of sampled hh) (PS-ARD: 2011A).

The RAS systems social effect on higher administrative levels is seen in the fact that district and provincial administrative structures now integrate preferences of villagers into their planning. No significant changes were observed regarding the position of women or ethnic minorities in government structures.

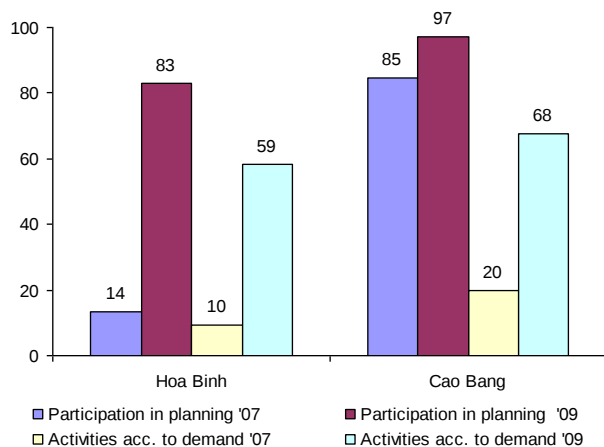


Figure 13: Participation in planning and demand orientation of extension activities in both provinces, 2007 and 2009 (% of the total no of hh in the sample) Source: PS-ARD: 2010

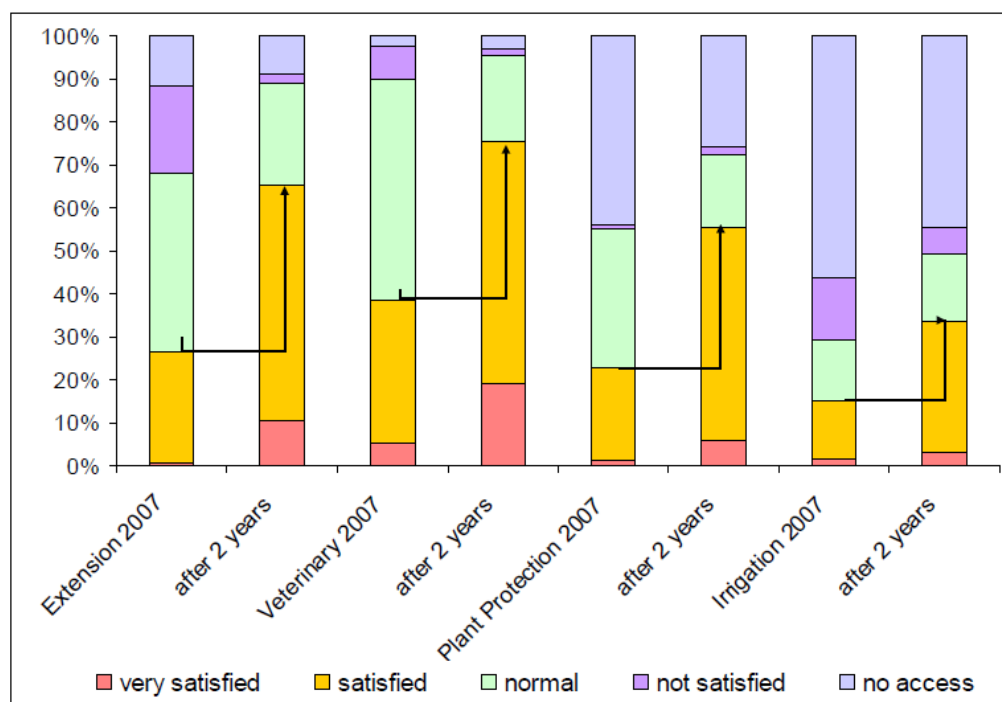


Figure 14: Satisfaction with the services before and after the project intervention. Source: PS-ARD: 2010A

Inclusiveness related to poor households

CDF guidelines enforce a pro-poor approach aiming at 50% poor hh benefitting from CDF activities, SED planning and FFS. Up to date, around 42% poor hh directly benefitting from CDF, with lowest percentage of poor hh benefitting in districts with low poverty rates. In 2010, participation of poor hh in SEDP was 46%, and in FFS almost 50% (PS-ARD: 2011; PS-ARD 2014C).

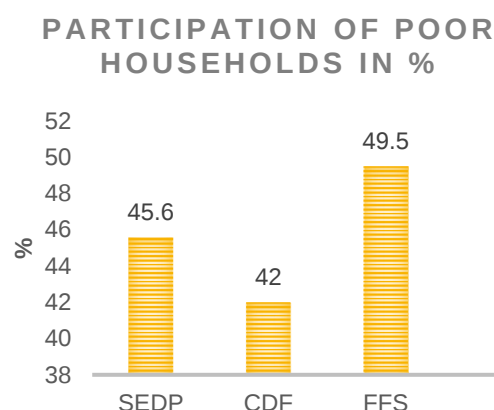


Figure 15: Participation of poor households in each Intervention (PS-ARD: 2010A)

Inclusiveness related to gender

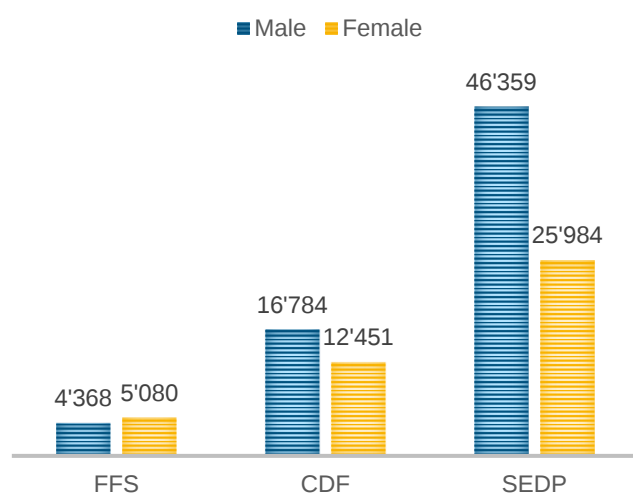


Figure 16: Participation of women in each Intervention (adapted from PS-ARD C: 2014)

To foster gender equality, equal participation of men and women in PS-ARD capacity building activities at all levels was promoted, reaching on average of 29% women participation. This number need to be considered against the backdrop that trained positions e.g. in the provincial people committee are hardly occupied by women (MTR: 2011). PS-ARD aimed at building awareness about gender issues of future cadres government officials by supporting participation of women in the two schools in HB.

The participation of female producers in FFS is over 50% (PS-ARD C: 2014). Women in CB are better targeted than women in HB: In CB, 55% of participants in FFS are women, in contrast to 25% in HB in 2010 (PS-ARD: 2011).

There is no quota for women participation in SED planning. Women participation remained with an average of 25% low. In HB, women participation is

considerably low with only 20%, compared to about 40% in CB. (PS-ARD: 2011).

Regarding the benefits of the participatory SEDPs and its implementation, PS-ARD assumes that women benefit in the same way as men from small-scale infrastructure measures, e.g. irrigation schemes and improved road access. This has not yet been further assessed.

Inclusiveness related to ethnic minorities

The analysed RAS system operated in two provinces with a high share of ethnic minorities: In CB, ethnic minorities (Tay/Nung) constitute with 72% the majority, and the Kinh (Vietnam's ethnic majority) make only 3% of the population. Hence, inclusion of ethnic minorities is secured already with the selection of the working area.

The main contribution of the RAS system to gender and social equity is its location in remote and mountainous areas, where ethnic minority groups constitute the majority and where newly emerging private RAS actors have little interest to invest. From a point of view of public and private interest, it makes sense that the government with its public extension system is strengthened to provide extension where there is little interest for the private sector to do so.

By introducing participatory SED planning at village level, the project and later the RAS system fosters integration of poor households and women’s preferences into the SEDP. However, decision taking on SEDP implementation still relies on government cadres where ethnic minorities and women are underrepresented. This situation limits the system’s potential to ensure decision taking according to the preferences of poor households or ethnic minorities.

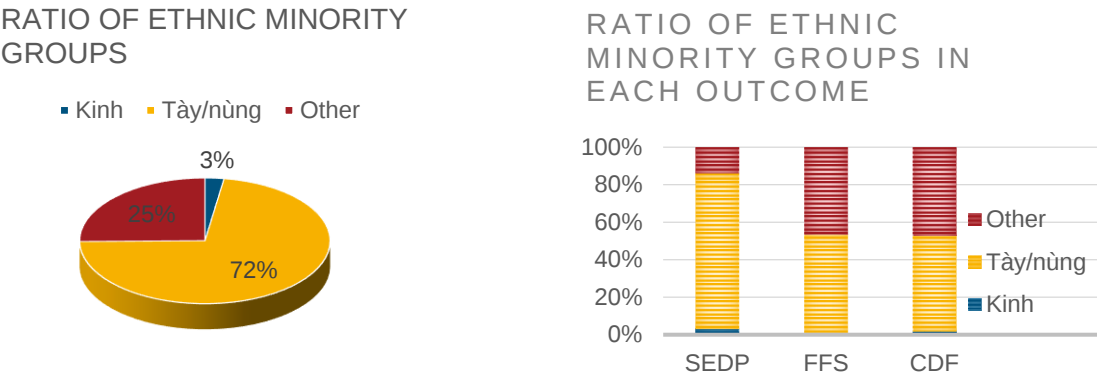


Figure 17: Ratio of ethnic minority groups in Cao Bang, and participation of ethnic minority in the divers RAS interventions (adapted from PS-ARD: 2014C).

Institutional effects

Successful implementation of CDFs and SEDPs in some villages serves as an example for further institutional change in the provinces or country. The extension system - as a governmental system – includes a strong advocacy component through the SEDP, which can foster further decentralisation of funds. Therefore, the increasing capacities and experiences of communes in financial management may be considered as the greatest potential to foster decentralisation of governmental funds.

9. Conclusions: Learnings and innovations from PS-ARD on how to reach large numbers of farmers with RAS

PS-ARD contributed to the establishment of a RAS design that has a real potential to react on farmers' demand and to be sustainably managed by the governmental structures of Vietnam.

The study crystallised several innovations regarding the project contributions and the design of the public RAS system, which supported the system becoming demand-driven and sustainable.

1.) Comprehensive contributions to the fundamental elements of RAS

PS-ARD worked on three levels: A) it empowered rural citizens to express their needs and priorities through participatory SEDPs, B) it capacitated local authorities to manage funds according to the participatory SEDP (including the provision of RAS), and C) it established a sustainably available fund (CDF) to finance the SEDP.

Further, PS-ARD strived to anchor these contributions at all levels in the government procedures through guidelines, approvals and finally RAS policies. In particular, the inclusion of FFS into participatory SEDP makes it possible to institutionalise the investigation on farmers' need for training.

With such comprehensive contributions and their strong focus on local governance and decentralised finances, PS-ARD succeeded to adapt the existing system in a way it became demand-driven and nonetheless sustainably financed.

2.) Existing policies as rational for all project interventions

PS-ARD aimed to align all its contributions with the government system and with existing policies. It formulated its project objectives according to the existing policies (GRDD, PAR) with the aim to translate these policies into action. With this, PS-ARD made use of and strengthened the existing innovative goals at policy level. The fact that decentralised financial management and participatory SEDP were foreseen in the official country policies only made it possible for PS-ARD to successfully translate such ideas into the real political procedures. This is considered a major achievement of PS-ARD – based on innovative intention of existing policies.

3.) Dovetailing the national SEDP with participatory SEDPs

One of the main challenge was, and remains the dovetailing of the national SEDP with participatory SEDPs of the communes. PS-ARD considerably worked towards an institutionalisation of participatory SEDPs. It created guidelines and standard procedures to dovetail the top-down national SEDP with the bottom up participatory SEDP in order to avoid a parallel system that risks to be omitted. A considerably innovation to dovetail the two SEDPs is the integration of several thematic spheres into one participatory SEDP. This simplified the participatory planning procedure and rendered the SEDP comprehensive, thus better answering to the national SEDP.

With its contributions to the participatory SEDPs, PS-ARD considerably provided voice to citizens and fostered the system's capacity of integrating the demand of the citizens. However innovative this approach has been, future has to show, whether the established mechanism for creating participatory SEDPs will sustain or whether the political interests at province and national level will ultimately constrain the influence of participatory SEDP.

4.) From piloting and hands-on training in precedent projects to institutionalisation of most promising approaches

PS-ARD was designed in a way to effectively use the pilot experience of the precedent projects to institutionalise the most promising methodologies. Accordingly the project consequently followed the approach of **piloting first and then work towards and institutionalisation** and standardisation of methodologies. By following such an approach, PS-ARD could benefit most from the precedent projects that developed and tested methodologies in all spheres of PS-ARD intervention.

Piloting new extension or planning approaches alone is not considered an innovation. However, **backing up such pilot activities with a financing mechanism (CDF)**, which is integrated and partly financed by the

government system has paved the way for institutionalising these approaches and has fostered their sustainable financing.

Further, the CDF served not only as a tool to integrate finances for participatory SEDP activities into the government system, but also allowed for hands-on trainings in financial management for commune staff. The **CDF was thus itself a hands-on activity to** foster the financial management capacities of commune staff and with that decentralisation of funds.

Institutionalising, however, also meant loss of project control, mainstreaming and up-scaling of methodologies, and with that possibly loss of quality of the services and planning sessions.

5.) Allocation of project finances through the same channels as finances are expected to be allocated after the project's phasing out

From the very beginning, the project aimed at a relatively high government contribution (50%) to the CDF. Since the GoV was and still is expected to ultimately finance the CDF, PS-ARD planned continuous decrease of donor funds and increase if GoV funds. To allow a smooth transition of the funding sources, the project transmitted its fund through the same channel as the GoV: the CDF.

In the same time, PS-ARD strengthened the capacities of communes to allocate and manage these funds, also after the project's phasing out. This twofold strategy allows for a smooth phasing out of the project's finances, since the flow of finances and their management is anchored in the governmental system.

6.) Innovative monitoring approach of SEDP and CDF implementation

Finally, with the satisfaction survey, the project introduced an innovative and meaningful monitoring tool. PS-ARD used a statistic significant sample of 200 hh and comparative groups in regions without or before PS-ARD interventions. The satisfaction survey is a strong and innovative tool to measure the socio economic effectiveness of the project contributions and of the RAS system. However, there are also critical voices about the satisfaction report, claiming that information might be biased because people are reluctant to criticise one part of the project/system, while appreciating another part. This is particularly the case for PS-ARD where most of the people may appreciate CDF investments in infrastructure or agricultural inputs, but possibly might be not satisfied with decision making procedures or the quality of services. Nevertheless, such tool has compared to other monitoring tool that are often biased towards economic indicators only, the potential to reflect the socio economic impact of a such large programme, respectively RAS system.

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Stefanie Kaegi 05.05.2015

CAPEX Study 3: Capitalisation of Experiences in the Sustainable Soil Management Programme (SSMP); Nepal: 1999 – 2014

A study to capitalise experiences in SDC financed rural advisory services programmes in Asian countries



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Summary

This desk study capitalises the experiences of the Sustainable Soil Management Programme (SSMP) with the goal to derive learning from the project's successes and challenges. The study offers an overview of the rural advisory service (RAS) system before, during and after the project intervention and analyses in what way SSMP contributed to the current extension system of the project area.

The bilateral project was funded by the Swiss Agency for Development and Cooperation (SDC) with CHF 18 million (respectively CHF 353 per farmer trained on sustainable soil management) and implemented from 1999 to 2014 in Nepal by HELVETAS Swiss Intercooperation.

Major achievements of SSMP

- 30% block grants for the Village Development Committee are allocated for RAS
- Agriculture, Forestry and Environment Committees (AFEC) have been established and institutionalised at village level.
- Successful sustainable soil management technologies and the farmer to farmer RAS approach have been integrated curricula and agricultural policies.
- Almost 2000 farmers are trained to work as experiences leader farmers (ELF), out of which 350 ELFs have been certified from the National Skill Testing Board.
- 62,000 households were trained on SSM technologies: 65% of the trained hh belong to DAG; 60% of the farmers participating in farmer groups are women farmers.
- 60 students (female or from disadvantaged communities) participated at a junior technician in agriculture course run under the Center for Technical Education and Vocational Training (CTEVT); 100 students made an internship in local service provider organisations.

Derived learning: Successful approaches

- Strong and continuous gender and ethnic disaggregated monitoring significantly strengthened inclusion of women and DAG.
- As strategy to strengthen persons of DAGs, SSMP supported them to study at the agricultural high schools and it facilitated internship of students in local service provider organisations.
- New role of the state: testing and certifying the qualification of ELFs.
- SSMP successfully existing policies for decentralisation to establish local RAS coordination entities (AFECs) at local level.
- SSMP strengthened the AFECs capacities to work as public extension management institution and to integrate the farmer to farmer RAS system into the government financing system. With this, it became possible for the AFECs to access governmental finances.
- SSMP waited with policy work for institutionalising promising approaches until AFECs and ELFs had enough capacities to manage the RAS system and to offer the required services.
- SSMP used the same channel to provide funds to RAS system as the public financing system. Accordingly, phasing out project funds does not evoke a change of the funding system, but means just less funds for AFECs. This may foster the system's sustainability.

Major challenges

- Management capacities of AFEC staff are key for the functioning of the RAS system and requires intensive training and broach experience of staff.
- The workload of running a competitive grant system is huge and probably not financeable without project support.
- Demand-driven RAS requires continuous capacity building of experienced leader farmers. There is a risk that AFECs will use future block grants for infrastructure rather than for capacity building of ELFs.
- Demand-side financing requires strong voice of farmers in order to increase demand orientation of RAS. This is not necessarily given in the context of SSMP.

Acknowledgement

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Abbreviations

AFEC	Agriculture, Forestry and Environment Committee
APP	Agricultural Perspective Plan
ASC	Agriculture Service Center
CI	Collaborating Institutions
CTEVT	Council for Technical Education and Vocational Training
DAG	Disadvantaged Groups
DADO	District Agriculture Development Office
DDC	District Development Committee
DFG	Demand Farmer Groups
DoA	Department of Agriculture
DLSO	District Livestock Service Office
ELFs	Experienced Leader Farmers
FtF	Farmer to farmer
HH	Households
HICAST	Himalayan College of Agricultural Science and Technology
IAAS	Institute of Agriculture and Animal Science
LSGA	Local Self Governance Act
MoAD	Ministry of Agriculture Development
NARDF	National Agricultural Research and Development Fund, under the Ministry of Agriculture and Cooperatives Established in 2002.
NGO	Non governmental organisation
PTD	Participatory Technology Development
RAS	Rural Advisory Services
SDC	Swiss Agency for Development and Cooperation
SSM	Sustainable Soil Management
SSMP	Sustainable Soil Management Programme
VDC	Village Development Committee

1. Introduction

Context of SSMP intervention

The SSMP was initiated in 1999 with the objective “to improve the livelihoods in Nepal’s middle hills of women and men small holders by fostering sustainable soil management (SSM) practices in the bari (rainfed)-dominated hill farming systems and their diffusion through a locally based extension system” (Prodoc III: 2007).

The project was implemented in a country, where 85% of the population live in rural areas and derive their livelihood at least partly from farming that takes place on very small fields: 40% of the farms count less than 0.5 ha, and 47% of the farms count 0.5-2 ha. Agriculture in Nepal’s mid hills is characterised by low fertility soils and limited access of the farming community to knowledge on improved and sustainable farming practices (Prodoc III: 2007).

Further, between 1996 and 2006, Nepal faced a decade long armed conflict, and the peace process has not yet been accomplished. During the conflict, the public agricultural extension system has become widely dysfunctional and many governmental agricultural service centres were disbanded and thus unable to provide essential services. During and after the conflict, farmers, especially in remote areas, had nowhere to turn for technical support, which resulted in lower yields and less income (Icimod: 2014). Another constraining factor in the public extension system is considered the lack of accountability and transparency of local government structures. (Schrader: 2014).

After the conflict, several policies that foster decentralisation and agricultural development evolved and served as a supportive basis for the SSMP project interventions. The institutional framework in which the project as implemented is given by following policies (ProDoc IV: 2010):

- The Agricultural Perspective Plan (APP, issued in 1995) considers the improvement of soil fertility management as a major concern for increasing agricultural productivity.
- The revised Fertiliser Policy (published in 2002) recognises integrated plant nutrient systems as strategy to effective and efficient soil fertility management in Nepal.
- In the 10th 5-year development plan (2002-2007) poverty alleviation and gender-balanced development, as well as SSM are integral elements.
- The Local Self Governance Act (LSGA, issued in 1999) promotes the decentralisation of agricultural extension and implies a gradual shift of responsibility and authority to district and village level actors.

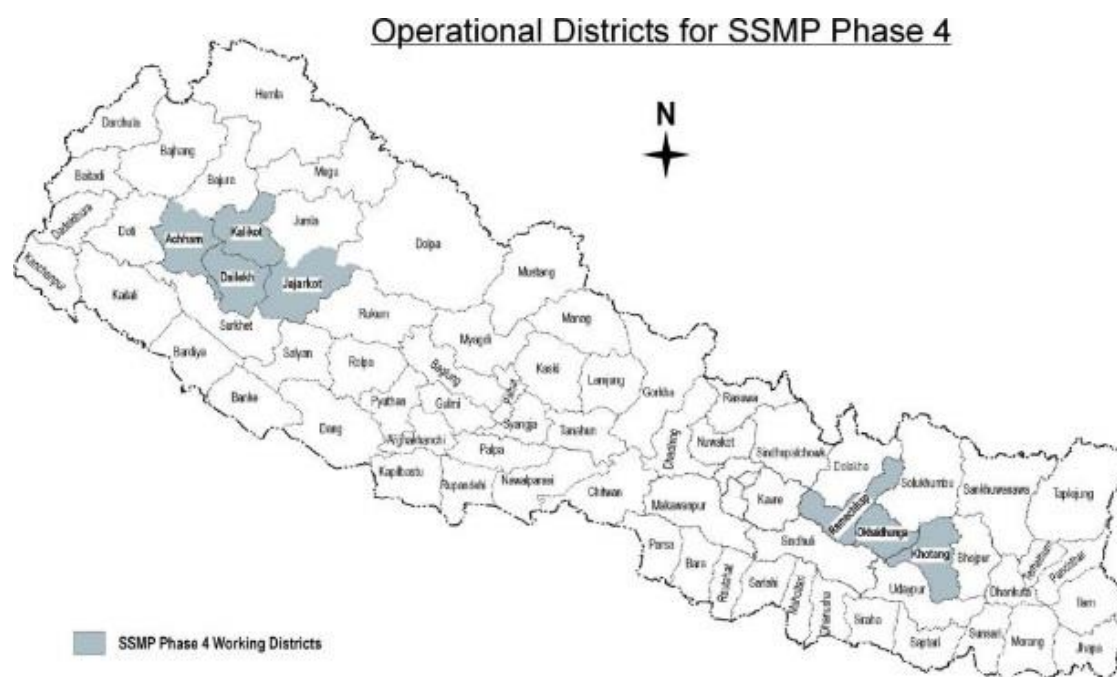


Figure 18: Operational Districts in the last project phase (SSMP: 2014)

The following table provides an overview of the RAS system in the project area before the project embarked.



In this context, SSMP set out to

- 1) develop SSM practices jointly with farmers,
- 2) foster a farmer-to-farmer (FtF) dissemination of SSM practices,
- 3) strengthen the knowledge of farmers through a decentralised agricultural extension system for which finances are allocated at the lowest administration level, the villages.

Project rationale and relevance

- to improve the fertility status of agricultural soils in the middle hills of Nepal
- to strengthen the knowledge of the farming community on improved farming practices
- to establish a decentralised extension system at the local level.

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2. SSMP Contributions to the RAS system

This chapter discusses the project contributions to the RAS system in the course of the project intervention. It first describes the overall goal of the contributions and then provides an overview of the project contributions regarding to RAS policies, RAS design and content, networking activities and finances.

Objective of the contributions

The project contributions were oriented to the project goals, which slightly changed from phase to phase as follows:

The first phase of the SSMP was initiated in 1999 with the objective of improving livelihoods of smallholder farmers through SSM practices. The project put great effort on participatory technology development of SSM practices.

The second phase (2003-2007) focused on the dissemination of successful extension contents in the form of a participatory farmer to farmer (FtF) dissemination through experiences leader farmers (ELFs).

The third phase (2008-2010) focused on decentralising and institutionalising the FtF-system to the lowest administrative body, the Village Development Committee (VDC). Based on the LSGA of 1999, SSMP supported the establishment of Agriculture, Forest and Environmental Committees (AFECs) as the local public institution responsible to plan and implement agricultural development activities at VDC-level. In this phase, the project put emphasis on increasing the inclusiveness for disadvantaged communities.

The fourth phase (2011-2014) aimed at consolidating and institutionalising this decentralised and participatory extension approach through:

- Establishment of AFECs and capacity development of AFEC staff
- Development and mobilisation of ELFs through AFEC
- Establishment of an agriculture development fund and its implementation
- Institutionalisation of SSM methods and farmer to farmer dissemination through integration in national agriculture policies, educational institutions and research organisations.

	Phase 1	Phase 2		Phase 3	Phase 4
Goal	Improved livelihood of women and men farmers from bari-dominated farming systems in the mid-hills of Nepal through productive and sustainable management of soil.			Women and men farmers in bari dominated farming systems of Nepal's mid hills have improved food security and increased income.	
Outcome 1	SSMP contributes to improve soil fertility and productivity in bari-dominated farming systems in the mid-hills of Nepal. This will be achieved by building technical and methodological capacity of women and men farmers for sustainable management of soil through the support to enabling collaborating Institutions.			SSMP contributes to Behavioural change: Smallholders and disadvantaged hhs have adopted improved SSM practices and have seized new production opportunities (phase IV: and market opportunities)	
Outcome 2				Institutional Change: District extension services related to SSM respond to the needs of smallholders and disadvantaged groups.	Institutional Change: Government organisations, NGOs and educational establishments have institutionalised the FtF agricultural extension approach

Addressees of the contributions

SSMP targeted both, the demand and the supply side of extension: On the one hand, it developed and offered a technical “basket” of SSM practices to households living in remote areas. On the other hand, it capacitated the supply side to organise a participatory and decentralised extension system.

2.1. Contributions to extension policies

By piloting SSM methods and the FtF-extension approach, the project has proved the effectiveness of the approaches. Based on evidence from the field, SSMP advocated for these approaches at national level. (Advocacy component: CHF 40'000; Budget contribution to DoAC: 100'000)

Learning: Prepare the ground for the institutionalisation of a new approach, by piloting these approaches at local level and

Effects:

- The educational institutions HICAST, CTEVT, AFU and IAAS have included both, SSM technologies and the FtF extension approach into their curricula.
- The APP initially focused on the use of external inputs such as mineral fertiliser and improved seeds. Such inputs are available mainly in well accessible areas close to the district towns. Based on the pilots SSM technologies that showed how to increase soil productivity in the hills these technologies were fully recognised and included into the APP in 2003.
- Based on evidence from the field, SSMP succeeded to promote the concept of integrated plant nutrition systems as well as the concept of organic amendments (farm yard manure, compost, cattle urine) as effective fertilisers. As a result, these components were integrated in the Revised National Fertiliser Policy from 2002.
- SSM practices were up scaled by MoAD nationwide. The Government of Nepal (GoN) also initiated incentives to the farmers for cattle shed improvement to enhance the quality of farm yard manure and urine collection. The Department of Agriculture scaled up the improved cattle shed programme in 60 out of 75 districts of Nepal. (Shrestha: 2015)
- The 10th Five Year Plan in 2002 and the National Extension Strategy of 2007 recognised and inbuilt the FtF extension approach promoted by SSMP (ProDoc III: 2007).
- SSMP pioneered a competitive grant system (CGS) for extension service delivery in Nepal. The APP support programme and the Nepal Agriculture Research and Development Fund (NARDF) have adopted this Competition Grant System (CGS): In 2004, the APP support programme has created a district CGS, while NARDF manages a CGS at the national level.

2.2. Contributions to the advocacy capacity of civil society

As shown above, SSMP has been effective in advocating for SSM enabling policies. However, SSMP did not facilitate or capacitate collaborating institutions (CI) or farmer committees to continue such advocacy work, thus, the well-done advocacy work of the project has not been institutionalised by RAS actors. Because the activities of local RAS actors are not expected to lead to any kind of formal advocacy at national level, the question raises, which local organisation will continue the national advocacy work and hold the government at national level accountable after the project's phasing out.

2.3. Contributions to the RAS design

SSMP contributed to the establishment of a public RAS system that is

- implemented by experiences leader farmers (ELF) based on FtF-dissemination,
- managed by AFECs at village level,
- financed through decentralised government funds that are allocated from the district development funds,
- supported with technical knowhow and services from CIs⁷.

⁷ The term collaborating institutions incorporates all actors capable to support the RAS system. These are mainly local NGOs, but also public institutions and private actors.

The contributions of SSMP such public RAS system were twofold:

1) Decentralisation of RAS through the establishment of Agriculture and Forest Environmental Committees (AFEC)

A major contribution to a decentralised extension system is the establishment and institutionalisation of AFECs. According to the LSGA of 1999, AFECs are the responsible committees for agriculture development and natural resource management. They are operational under the VDC, the lowest administrative level. While the LSGA 1999 described AFECs' role as advisory committee for the Village Development Committees (VDC), SSMP wanted the AFECs to be a planning and coordination unit for the agriculture, forest and environment sector with own funds.

Learning: SSMP used existing policies to establish local planning entities (AFECs) at local level. Therefore, SSMP strengthened the AFECs' capacities to work as public extension management institution at VDC level and to integrate the bottom-up RAS system into the government system. This enabled AFECs to access public finances.

Effects: In fact, AFECs did not exist in VDCs (ProDoc III: 2007) before SSMP's intervention. The project's long-term policy work led to the institutionalisation of AFECs at local and national level. As a result, the MoFALD issued a directive to the VDCs to allocate at least 15% of the government block grants to agriculture sector administered by the AFECs. These funds (~ US\$ 2,350/VDC/year) are currently utilised to serve in average 12 farmer groups through 2-3 ELF in each VDC.

With the institutionalisation of AFECs and their role as local committee accountable to farmers, SSMP paved the way for the decentralisation of agricultural extension down to village level. Since its third phase, SSMP succeeded in establishing AFECs in all 378 VDCs of the seven SSMP project working districts. SSMP has successfully advocated for the AFECs' further institutionalisation: The GoN has piloted AFECs in 40 districts and plans to establish 1500 AFECs in 60 districts in the fiscal year 2014/15 (Shrestha: 2015).

2) Institutionalise the Farmer to Farmer (FtF) disseminating approach through experienced leader farmers (ELF)

The majority of rural farm households (65% of all Nepalese households) are still deprived of public extension services due to inadequate number of service centres and human resources in these service centres. A low number of district based public extension staff face a high number of villages requiring RAS. That is why, SSMP aimed at institutionalising the more efficient FtF-agricultural extension approach for agricultural extension.

Learning: From the very beginning, the project successfully strived to anchor the FtF-dissemination through ELFs

To this end, SSMP employed local CIs to mobilise and capacitate experienced farmers to work as extension agents, the so-called experienced leader farmers (ELFs) (ProDoc IV: 2010). ELFs are based locally, have a common linguistic and socio-cultural background as their farmer groups and are thus expected to provide effective and efficient services, and complement the public extension services.⁸ This is particularly the case when it comes to reach out to disadvantaged groups (DAG) such as Dalits, Janajatis and other ethnic minorities, or to provide training to women farmers (Schrader: 2014).

Effects: SSMP was able to demonstrate the feasibility and efficiency of the AFEC led FtF extension system. This proof, in combination with the project's advocacy work, led to the integration of the FtF dissemination approach into the curricula of agriculture education institutions as well as to the National Agriculture Extension Strategy 2007.

In 2013, the MoAD issued directives to all DADOs to incorporate the FtF extension approach as a mandatory programme in their regular annual plan (Shrestha: 2013). The MoAD facilitated this process through five regional workshops (Shrestha: 2015).

⁸ Of total 1993 ELFs, 42% are women, 13% Dalit and 30% Janajati. (SSMP 2014).

Competitive Grant System at national and district level (CGS)

SSMP initiated a CGS at national and district level in 2000, with the objective to ensure the competitiveness and inclusiveness of CIs and in order to increase transparency and accountability of mandate allocation. SSMP therefore strengthened the skills of CIs in proposal writing, monitoring and reporting. The state owned National Agriculture Research and Development Fund (NARDF) established in 2001, incorporated the CGS system for diverse rural development initiatives. Governmental and non-governmental institutions working in agricultural development and research had the possibility to submit proposals for projects in the rural development sector. The NARDF selected the most promising project proposals and provided funds to the selected actors to implement the activity. The CGS is not anymore operational.

Learning: Using the national grant system to provide financial support to the CIs strengthened an existing system to decentralise funds. The CGS, however, was phased out in 2013.

Learning: In order to include locally based services providers, CGS criteria were adapted to the relatively lower writing and planning skills of CI living in remote areas that else could not have competed with district or provincial service providers.

2.4. Contributions to capacity building of RAS actors

A key contribution of SSMP to the RAS system is that it built capacities of CIs, which then built capacities of local and district government bodies, and ELF's (total costs: CHF 550'000). The capacity building contributions include:

- Training of over 90 CIs on SSM technologies, farm management, commercial farming, value chain systems
- CIs trained staff of 378 AFECs on decentralised, participatory planning, budgeting, accounting, organisational management, farmer groups proposal evaluation and programme implementation
- CIs trained farmer groups for joint agriculture planning
- In the upcoming political process in Nepal, the project sees it as a major challenge to enable the AFECs to manage the FtF extension system in a transparent and efficient manner
- CIs trained almost 2000 ELF's, organised exchange visits between districts, and facilitated participation of AFEC staff and ELF's in national workshops. 400-500 ELF's (= 1-2 per village) are expected to continue offering their services after the project's phasing out. (Allen: 2014). 350 of the trained ELF's have been certified from the National Skill Testing Board (NSTB) under CTEVT.
- Support of ELF's to train 62,000 farming households (65% of the hhs belong to DAG, while 60% of the farmers participating in farmer groups are women farmers) on SSM methods.
- Support of 60 students (phase 3 and 4), female or from disadvantaged communities to participate at a junior technician in agriculture course run under the Center for Technical Education and Vocational Training (CTEVT).
- Facilitation of around 100 internships for students of Agriculture teaching institutions (Agriculture and Forest University, IAAS, HICAST, CTEVT) with CIs or SSMP.

Learning: To promote inclusive service provision, SSMP supported disadvantaged persons to study at agricultural institutions and facilitated internships of those students in local service provider organisations.

2.5. Contributions to RAS contents

Particularly in its first phase, SSMP put a lot of effort to identify and validate a range of farming practices aiming not only at increased soil fertility but also at a higher agriculture production and/or income (total costs: CHF 900'000). SSMP emphasized on the participation of farmers in technology development and dissemination.

The elaborated and promoted technologies include:

1) Advice to raise soil fertility through

- improved farm yard manure management, on-farm composting, and cattle urine as fertiliser and bio pesticide,
- integration of legume into the cropping system,
- integrated plant nutrient management,
- improved water management including rainwater harvesting and storage, as well as efficient irrigation through drip irrigation
- improved moisture conservation practices, such as mulching, use of green manure, and/or cover crops
- crop rotation
- locally produced plant protection means such as bio pesticides.

2) Advice to increase income through

- improved seeds and technologies for production of food crops as well as cash crops
- a gradual change from traditional subsistence to a more market oriented farming system through the production of vegetables/cash crops, crop diversification

3) Advice to reduce workload

- farm forage production, waste water collection, improved cattle shed, tanned nurseries, on-farm composting

In order to promote these practices and render them accessible to a broad audience, SSMP has developed several training manuals and resource materials including posters, leaflets, books and booklets, audio-visual aids that are available in local bookstores.

2.6. Contributions to rural advisory methods

In its first phase, SSMP put emphasize on participatory technology development (PTD) with farmers. PTD lost of importance as more SSM technologies have been developed. In the following phases, SSMP promoted the FtF-diffusion of SSM practices,

2.7. Financial contributions

The project provided about 50% of the total project fund for RAS to CIs, which developed new SSM technologies and built capacities of RAS stakeholders. 50% of funds for RAS was provided to AFECs to coordinate and implement the FtF dissemination of SSM practices. At later stages, the proportion of fund shifted to 70% to the AFECs and 30% to the CIs, as AFECs gradually took over the role of CIs.

1) CI-Fund

Until 2011, CIs had to submit project proposals and compete in a competitive grant system in order to access project funds. After 2012, the project directly contracted CIs to build capacities of AFECs and ELFs. Whether the local government will continue allocating funds for capacity building of AFECs and ELFs depends on AFECs' capacities and motivation to allocate funds for capacity building.

Currently, AFECs are establishing a one window service delivery mechanism at local level to which other programme can align and possibly provide funds.

2) Fund for FtF dissemination

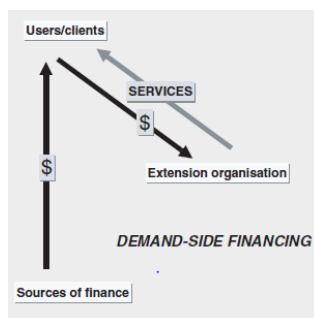
The fund for FtF-dissemination was transmitted directly to the 378 AFECs. Based on farmer groups' demand for RAS – described in demand proposals - these finances are transmitted to farmer groups to pay for FtF dissemination of selected technologies. By providing the funds to farmer groups, which then paid ELFs for their

services, SSMP promoted a reverse payment mechanism – a system that is expected to raise accountability of service providers towards farmers. In order to function well, such funding system requires strong capacities of farmers to articulate their demand and the capacities of ELF's to offer required services – both is not necessarily given in the project context.

However, through the national directive on the allocation of at least 15% VDC block grants, the project successfully enhanced future availability of finances for FtF dissemination.

3) Incentives to adopt new practices

The provision of incentives or subsidies to farmers to provide demonstration and encourage adoption of SSM practices has been an important SSMP strategy. These subsidies have encouraged better-off farmers to capture project funds in the first phases. That is why, since phase III, SSMP paid the subsidies directly to farmer groups, which decide how to distribute the funds judiciously. Although the project has foreseen that farmers benefitting from subsidies will repay the funds to the farmer groups, there was only weak monitoring done on how the subsidies were managed and paid back over time.



Learning: A strategy to raise extensionists' accountability towards farmers is the introduction of a reverse payment system. This requires strong capacities of farmers to articulate their demand, capacities of extensionists to provide requested services, and consequent monitoring.

2.8. Contributions to coordination and networking

The project focused its coordination activities on institutionalising collaboration between research institutions, District Agriculture Development Offices, AFECs, and CIs, in order to strengthen the agricultural knowledge system. The following three sources of knowledge and innovation for RAS providers have been supported:

1) Research → DADO → ASC → AFEC/ELF

SSMP facilitated the ELF's/AFEC to identify research needs. AFECs are linked with DADOs, which further have linkages to research institutions. In future, these linkages will depend on the capacities and willingness of the DADOs to maintain the relations and to keep the eyes open for useful innovations developed in research institutions. A particular challenge exist in frequent rotations of DADO officials.

2) Research and Educational Institutions → CIs → ELF's

By introducing SSM practices and the FtF dissemination approach into the curricula of education and research institutions such as the HICAST, AFU and IAAS, the vocational training courses of CTEVT and the NARC, the project has successfully established a future dissemination channel for SSM and FtF knowledge to students. Many students of educational institutions later work in CIs and then may train ELF's on farmer led experiments and dissemination. However, the linkages between CIs and ELF's depend on funds for ELF's capacity building, which are to be allocated from AFECs.

3) Participatory Technology Development by ELF's and farmers

SSMP promoted Participatory Technology Development (PTD), thus farmers and ELF's became themselves part of the innovation system. A well-maintained PTD (including subsidies for testing innovations or for minimising risks) strengthens the self-reliance of farmers and render the whole RAS system less reliant from linkages with research institutions that are often hardly maintained.

SSMP on the one hand carried local SSM innovations into research institutions and on the other hand made innovations from research institutions accessible to CIs, ELF's and farmers. These linkages have yet to be established at AFECs, ASCs and research stations for its sustainability.

Effects: In SSMP, the source of finances is separated from the source of knowledge and innovation. Linkages between RAS actors and research institutions are thus not ensured. This changes as soon as e.g. the government or a private sector agency decides to finance the SSMP RAS system to disseminate a certain innovation among farmers. The subsequent charts show the linkages within the agricultural knowledge system during the project support and the expected linkages after the project phasing out.

It becomes evident that the project facilitated many linkages without really institutionalising them. However, according to Morger (2014), it will depend on staff of the concerned institutions, whether linkages in the knowledge system institutions will be maintained.

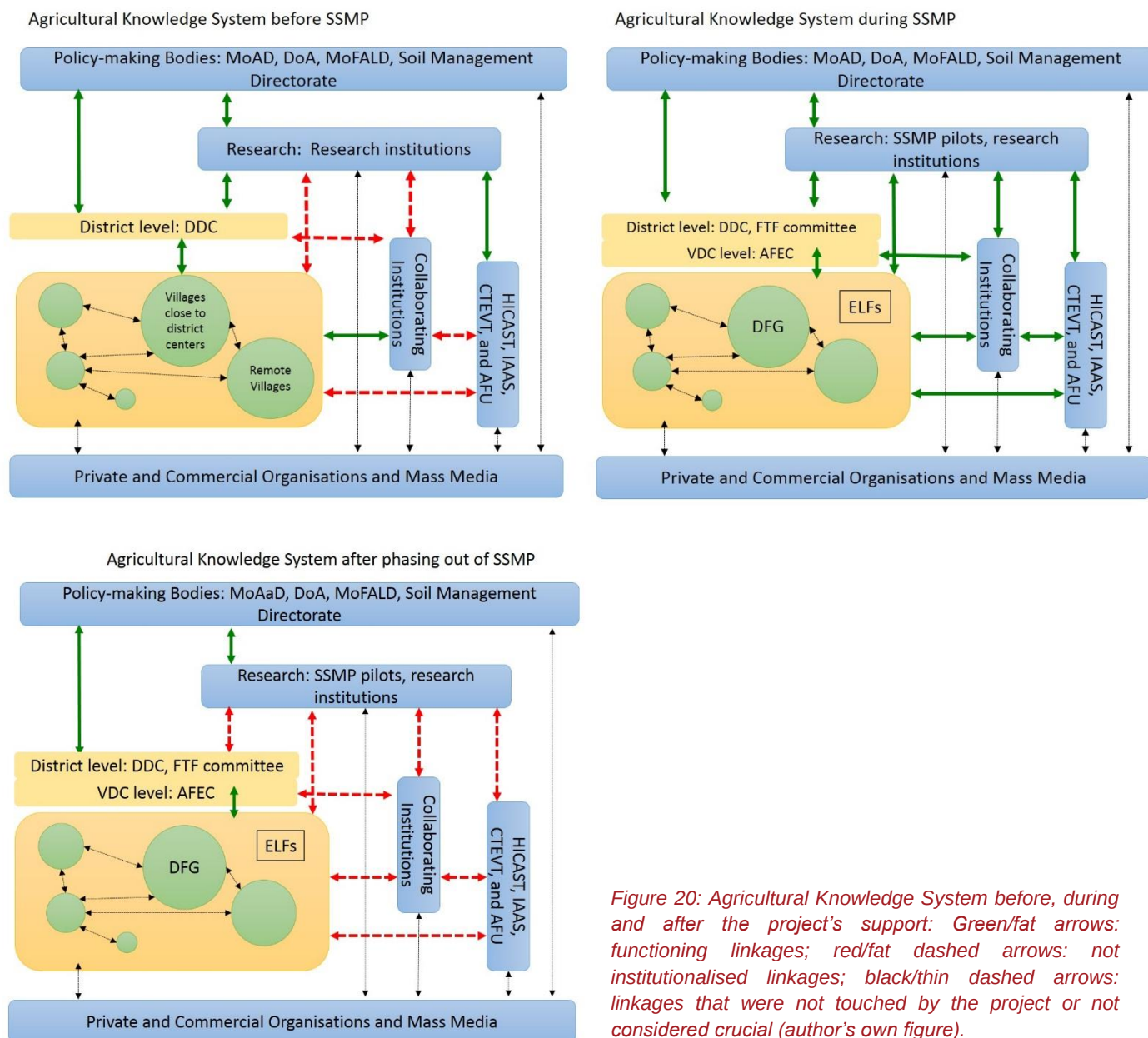


Figure 20: Agricultural Knowledge System before, during and after the project's support: Green/fat arrows: functioning linkages; red/fat dashed arrows: not institutionalised linkages; black/thin dashed arrows: linkages that were not touched by the project or not considered crucial (author's own figure).

3. Efficiency of the contributions

Efficiency of the contributions of the project is calculated using the following, very rough, formula.

Total programme funding / number of farmers accessed by RAS

From 1999-2014, SDC provided 17'689'687 CHF to SSMP⁹. With that fund the project directly reached out to approx. 50'000 farmers (>50% female; > 60% DAG) with extension (SSMP: 2014b).

CHF 17'689'687 / 50'000 farmers = CHF 353 / farmer trained on SSM, including all project costs.

With such contribution per farmer, SSMP succeeded in establishing an extension system that is financed by government block grants with around USD 2400 / year / village (see chapter 0). With such funding, the AFECs can finance 12 farmer groups, each with around 20 members for a year.

The efficiency calculation of the established public extension system is thus:

USD 2400 / year / 240 farmers = USD 10 / year / farmer

4. Effectiveness of the contributions: Up-take by state actors, civil society and private sector

With its contributions, SSMP aimed at an institutional and at a behavioural change – both, at local and district level. This chapter discusses the effectiveness of the contributions in reaching results based on the indicators and achievements by the end of the project's last phase (2014).

Effectiveness with regard to behavioural change:

Behavioural change is defined as the farmers' adoption of promoted SSM methods. Such uptake depends on the benefit that farmers expect from new methods, on ELFs efforts to properly show these benefits to farmers, and on farmers capacity to invest into new technologies, respectively to bear the risk evolving from whatever change. The following facts show the project's effectiveness in achieving behavioural change. (Data from July 2014; Logframes 2008 & 2010):

- 1) 46,684 hhs have adopted two new SSM methods.
- 2) 23,454 hhs (65% DAG) have adopted improved wheat and maize varieties.
- 3) In the season 2013/14, 17,433 hhs (61% DAG) have marketed vegetables and cash crops worth over NRs 20,000 per year/hh. This marks a rapid increase of marketed crops over the last two years that is explained with more intensive coaching on business planning and better established market linkages to support a system linking production with sales.

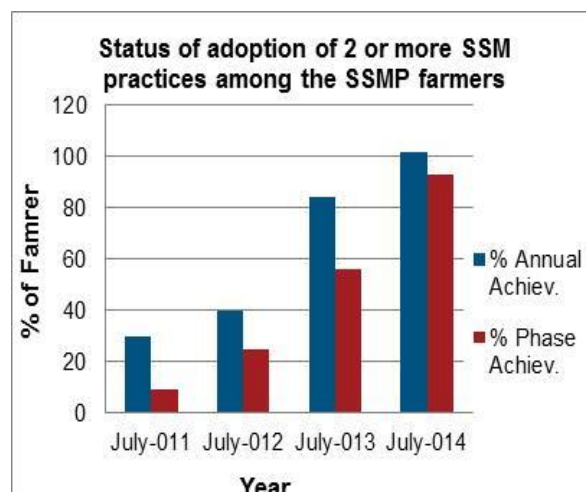


Figure 21: Uptake of at least two SSM practices by farmers. (SSMP: 2014)

In each aspect the objective of 60% DAG has been more than reached (62-65% DAG). The project indicates that 60% of the farmers reached are women – however, the indication of hh doesn't make evident how many of these women also adopted new technologies.

⁹ Source: Billing to SDC 2002, 2007, 2011, 2014

Effectiveness regarding to institutional change:

The project was very effective in institutionalising FtF agricultural extension approach and SSM practices within government organisations and educational establishments. Achievements are described in detail in chapter 2.1.

5. The public extension system after SSMP intervention

5.1. Actors and stakeholders of the SSMP RAS system

This subsequent table gives an overview of the main stakeholders and their role within the SSMP RAS system.

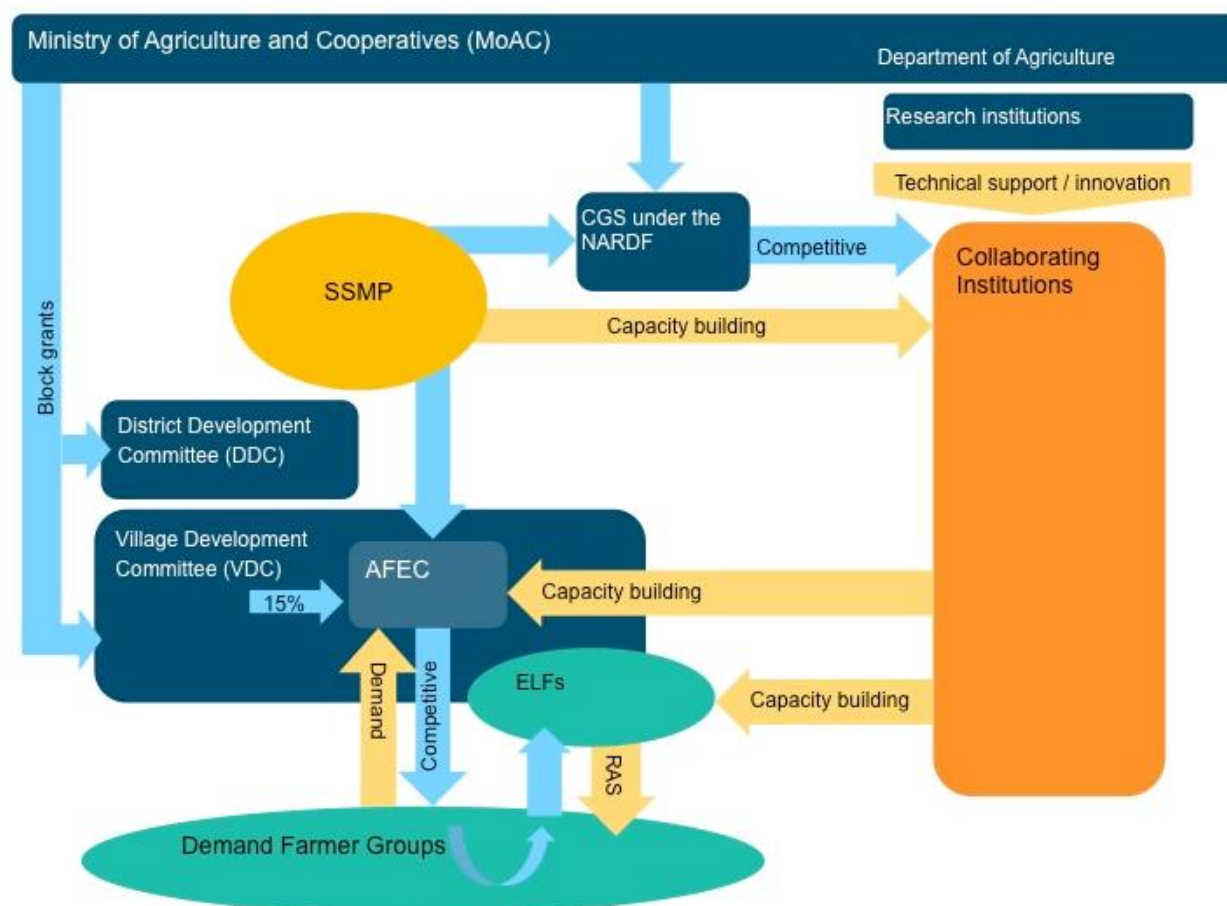


Figure 22: Actors and stakeholders of the SSMP RAS system (blue: government bodies / green: civil society / orange: project and CIs / turquoise arrows: fund flows / yellow arrows: services) (elaborated by the author)

Actors at national level

National Planning Commission (NPC): Provides over all directives for the allocation of resources in the agriculture sector

Ministry of Agriculture Development (MoAD)

- Provides the legal framework SSMP activities: National Extension Strategy and the LSGA of 1999 to decentralise extension services to the VDC level
- Up scaled the establishment of AFECs in 53 district,
- Staffs and finances the Directorate of Soil Management, and agricultural research institutions, which supports the promotion of decentralised agriculture extension and SSM practices,
- Coordinates and funds the National Agriculture Research and Development Fund (NARDF), that itself manages a National Competitive Grant System (CGS) allowing CIs to access funds for agricultural development activities.

Ministry of Federal Affairs and Local Development (MoFALD)

- Provides block grants to the VDCs and issued the directive to allocate at least 15% of VDC block grants for

Agriculture Development.

- Manages local agriculture programmes and develops implementation guidelines (with support from MoAD).

Agriculture Educational and Research Institutions: integrates SSM practices and approaches into the curricula or research programme.

Actors at district-level

The responsibility for a wider diffusion of successful SSM-practices lies with the district actors.

District Development Committee (DDC) coordinates, plans, monitors and facilitates local development work. The DDC channels local development budgets to VDCs and develops the local policy framework for decentralised agriculture extension.

DADO/DLSO

Before the AFECs were established, the DADO/DLSO and their respective Service Centers were responsible to provide extension to the entire district. However, due to inadequate service centers, human resources in these centres, access to services was very limited. . With the establishment of AFECs, the role of the DADO/ DLSO changed from a service provider to a coordinating and facilitating institution. Their role is also expected to bridge between national research institutions and AFECs. Till now, we have mixed response with the adoption of changing roles depending on persons and existing resources. Some DADOs play their role excellently, while others remain weak coordinators (Morger: 2014).

Actors at the local level

Village Development Committee (VDC) and Agriculture and Forestry Environmental Committee (AFEC)

The LSGA legitimise the AFECs as local management unit for the decentralised extension system. However, AFECs are fully operating only in the seven SSMP working districts, though it has been up scaled to other 53 districts. In the meanwhile, all VDCs of the SSMP working area have established around 378 AFECs (SSMP: 2014).

From SSMP perspective, AFECs are expected to manage the FtF extension services for agriculture development. As such, the AFECs play a key role in the RAS system and have to ensure that the FtF programme is implemented in an efficient, transparent, and demand oriented way. (ProDoc III).

AFECs are financed with 15% of the government block grants and receive SSMP finances, which are decreasing with the approaching phasing out of the project. The AFECs and VDCs conduct social audit meetings annually to enhance accountability and transparency of fund allocation. (Schrader: 2014).

Demand Farmer Groups (DFG) are an integral part of the system. Their name *demand farmer groups* derive from the fact that DFGs place their demands in the form of simple demand proposals to the AFECs. The AFECs evaluate and approve selected proposals that are in line with predefined criteria, whereas preference is given to farmer groups from socially disadvantaged groups. DFGs also receive subsidies from CIs for piloting new technologies.

DFGs are considered a main entry point for DAG and women to the RAS system. Accordingly, 22% of the DFG members are Dalit, 21% are Janajati and 60% are women (SSMP: 2014).

Collaborating Institutions (CI) are locally based service providers, mainly NGOs, but also private sector companies (e.g. input suppliers), and public service providers (e.g. national research centres, soil testing centres). Their core business is to build capacities of ELFs, AFECs, and government officials at VDC and DDC level and to pilot new agriculture technologies including SSM technologies. CIs are financed by the government (regular and special fund) and by projects via the CGS.

In order to do capacity building of RAS staff, the CIs were trained by the government and the project. After the project phasing out, CI's access to updated knowledge depend on their ability and willingness to stay connected with national and district research institutions, or – as a matter of course – on the capacity building activities of other projects.

Experienced Leader Farmer (ELF): By 2014, almost 2000 leader farmers (42% women, 13% Dalit and 30% Janajati) have been capacitated to work as ELFs and 300 ELFs have upgraded their skills and received certifications from the National Skill Testing Board.

Learning: The state plays a new and important role when it tests and certify the qualification of RAS providers.

Their responsibilities include:

- 1) To develop own demonstration farm, conduct farmer led field experiments
- 2) To mobilise farmer groups
- 3) To disseminate new technologies including SSM technologies
- 4) To support preparation of farmer groups demand proposal and their submission to AFEC
- 5) To monitor activities of farmer groups and provide follow-up assistance
- 6) To represent farmer groups at AFEC meetings and district FtF committee

However, by mid of 2014, only 33% of these ELFs have actually been mobilised by AFECs to offer extension (SSMP: 2014). The reasons behind are that many ELFs run their own enterprises, newly developed ELF still have to mobilise new farmers, and there is a limited frequency of local fund disbursement. ELFs are paid in average 700 NRU/day by the DFGs through a reverse payment system. (Shrestha: 2013).

5.2. Pluralistic dimension of the RAS system

The subsequent table shows that the SSMP RAS system concentrates on service provision from CIs to ELFs and from ELFs to DFGs, which is expected to be paid by the government block grant, line agencies, and donors. SSMP contributions are phasing out by the end of 2014. Despite some recently evolving Agoshops in well accessible areas, private sector performance is almost non-existent in the SSMP working areas. (Schrader: 2014)

Source of finances for services	Service Providers			
	Public sector	Private Sector	Civil Society	
			NGO	Producer Organisations
Public	Gov. block grants to VDCs from which 15% are transmitted to AFECs to be used for RAS.		CIs, financed by CGS provide trainings and piloting activities to ELFs and AFECs.	ELFs provide services. Farmers pay services through AFEC funds.
NGOs/donors	<i>SSMP support to AFECs (phasing out)</i> Donor support to the ministry of Agriculture Extension.		<i>CIs, financed by national and district CGS provide trainings ELFs and AFECs. (phasing out)</i> Donors finances CIs to provide extension	
Private companies				
Farmers		Few input providers e.g. Agrovat, and market/collection centres		
Producer Organisation				

Figure 23: Pluralistic dimension of the SSMP RAS system: *Fat/italic: activities that are phasing out with SSMP. (Table adapted from Agridea: 2010).*

5.3. Inclusiveness of the RAS system

SSMP worked in seven out of 75 Nepalese districts. As a basis for poverty oriented district selection, the project referred to the human development index (HDI), women empowerment index (WEI), as well as to a high proportion of bari (rainfed) land versus khet (irrigated) land (ProDoc II). In the course of the decentralisation process, SSMP shifted its focus from well accessible areas

Learning: SSMP's strong focus on inclusiveness, combined with a solid monitoring tool, and proactive interventions led to the relatively high inclusiveness of the RAS system.

around the district headquarters to all VDCs of a district including those with low accessibility and high incidence of poverty. (ProDoc III: 2006)

From the very beginning, SSMP made a real attempt to ensure that ELF teams and DFGs are inclusive in terms of gender and ethnicity. Therefore, SSMP set the indicator of 25% DAG and 50% women in ELF teams, and 60% DAG and 50% women in DFGs. As shown in the subsequent table, this target has been far exceeded by the end of the project:

Actors	Total	No. of DAG	DAG %	No. of Women	Women %
LSP	416	215	52%	169	41%
AFECs	4,401	1,785	41%	1,063	31%
ELFs	1993	259 Dalit / 597 Janajati	43%	337	42%
Farmers	37,222	22,658	61%	22,157	57%

Figure 24: Executive Committee Membership in SSMP's District Partners as at July 2014 (adopted from SSMP: 2014)

The adoption of new practices by DAG farmers and women farmers is a valuable indicator for the inclusiveness of the system: In 2014, around 90% of DAG farmers adopted new practices, compared to 80% non-DAG farmers adopting SSM practices. In the same year, already 50% of DAG farmers included cash crops into their value chains, whereas in 2013 only ~30% did so. The increase is explained with the project's emphasized effort to render the system inclusive, such as:

- tight monitoring that farmer groups work for the disadvantaged and poor;
- use of incentives to stimulate DAG adopting new technologies;
- include gender and social equity criteria into the CGS and the funding of AFECs (e.g. remoteness of the targeted VDC, poverty incidence of the VDC, DAG proportion of the target group)

A crucial strategy of SSMP to support DAG farmers in adopting new technologies was the provision of incentives and subsidies. Without the project's incentives, the system risks to fall back to the situation of 2008, when only few DAG adopted new technologies.

However, one can expect that the future inclusiveness of the system depend on the interests of personalities working in AFECs and districts as well as on the capacities and motivation of ELFs to demand for inclusive service provision.

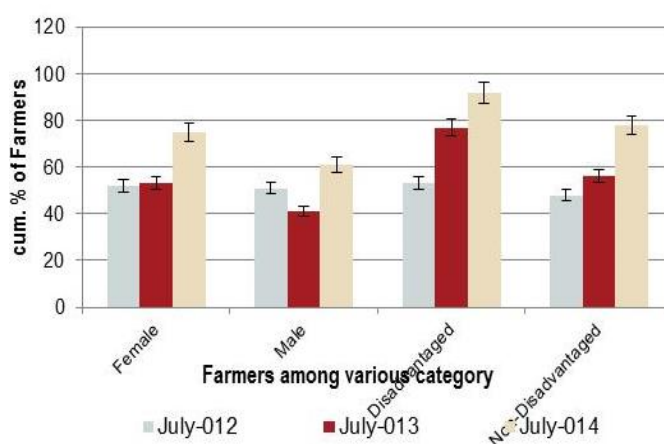


Figure 25: Cumulative % of farmers adopting 2 or > 2 SSMP practices form Jan 2011 to July 2014 (SSMP: 2014)

5.4. Sustainability of the RAS system

There are two aspects of sustainability to consider: the sustainability of the promoted SSM practices and the sustainability of the RAS provision. This study only discusses the latter aspect, and assumes that the SSM practices are, like the name promises, sustainable.

Sustainability of the RAS system

As mentioned above, SSMP succeeded to establish a locally based RAS system with linkages up to the national level¹⁰. Also the current government policies and plans are conducive to promote the system. A broad package of SSM methods have been developed. Almost 2000 ELFs have been trained and are available to provide extension services. Around 60 CIs have deepened their knowledge on SSM. Further, SSMP succeeded to secure

¹⁰E.g. FtF approach in national extension policy; SSM practices as part of the PPA, curricula of education institutions

the availability of 15% of the VDC block grants for agricultural development including RAS. These aspects foster the sustainability of the extension system.

The weakest aspect of the system seems the agricultural knowledge system. Linkages with universities are rather weak, since not connected with fund flows, and educational institutions may be reluctant to develop themselves further innovative SSM approaches. It will thus be up to farmers and ELF to search for innovations.

Hence although the system is expected to sustain in the longer run, the content and thus quality of the system will depend on:

- Farmers' capacity to articulate their concrete demand for services beyond of the services they already get.
- ELF's motivation and capacity to update their knowledge and to search for innovation if necessary.
- The interest of the GoN, the private sector or donors to spread certain innovation among farmers, and to this aim build capacities of ELFs.
- AFECs' capacities to coordinate the FtF-approach and to allocate block grants for RAS delivery.

5.5. Effectiveness of the RAS system

Increased access to agriculture extension services

The current government led public extension system is estimated to serve each year only 15-18% of the rural farming households. The AFEC system is able to complement this public extension system and to cater RAS to about 45% of the farming households within in the project districts in a relatively inclusive way (Shrestha: 2015).

Effects on food security and economic effects

Food security appears first in phase III as part of the project goal: "Women and men farmers in bari dominated farming systems of Nepal's mid hills have improved food security and increased income" (ProDoc III: 2007).

The programme based its contributions to food security on the assumption that farmers increase their security through increased soil fertility, thus increased yields and income. SSMP further assumes that farmers use their income for more and healthier nutrition. Based on this hypothesis the RAS system had impressive effects on food security. The economic effects are as follows:

- Throughout phase IV, 23,454 hhs (65% DAG) have adopted improved wheat and maize varieties. Over 70% of these hhs have increased their maize and wheat production by more than 50%.
- From a sample survey of 3,564 farmers in the 7 districts, there is a clear improvement in crop diversification (see figure 8). The average area under vegetables and/or cash crops per household has doubled from 2010 to 2014. Productivity of major vegetable like cauliflower, cabbage and tomatoes also increased on average from 500 kg/ropani¹¹ in 2010 to 700 kg/ropani in 2014. The sales volume of vegetables has also increased – e.g. in Khotang, from 40 metric tons marketed vegetables in 2010, to 110 metric tons in 2013/14.

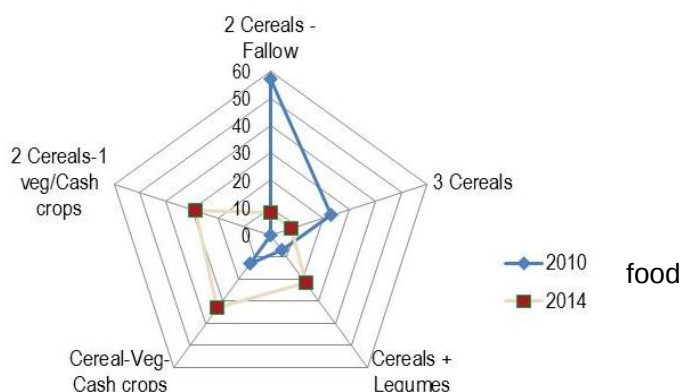


Figure 26: Changes in cropping pattern from 2010 to 2014, out of sample (n = 2564) of SSMP farmers. (SSMP: 2014).

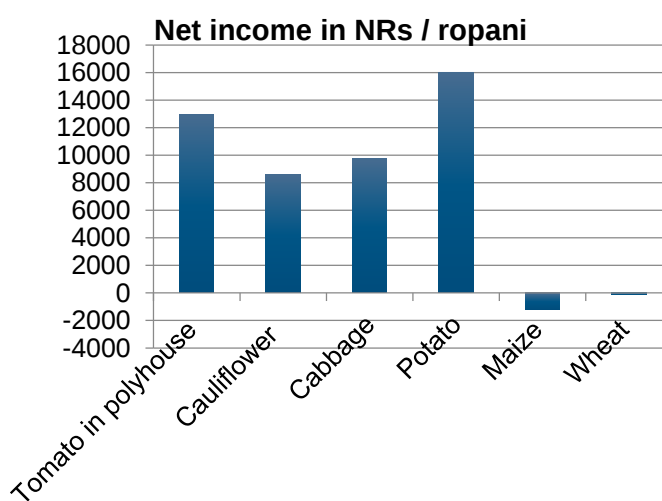


Figure 27: Brief income calculation for major crops, in NPR/ropani/y (adapted from Schrader et al.: 2013)

¹¹ 1 ropani = 509m² (www.sizes.com)

- The change from a mainly subsistence farming system based on maize and wheat to a mixed farming system including vegetables had a positive effect on SSMP household's net income. By mid-2014, already 17,433 (62% DAG) of the 46,684 SSMP farmers (65% DAG) have marketed their vegetables and gained in average NRs 10'000 by selling about 40% of the vegetables they produce. This was reached through increased coaching on marketing and by providing support to vegetable and cash crop production. However, this positive economic effect is concentrated on the more commercial SSMP districts in the central cluster that record the highest area of cash crop production, the highest productivity, and sales of cash crops.

Social effects

The RAS system supports farmers of DAG and women to participate in agricultural decision taking processes and work as extension agent. This increases self-esteem of women - in particular in women headed households. Women farmers and farmers of DAG holding executive positions in the AFECs could proof to their non-DAG and male dominated environment that they are doing their work well and could establish a socio-political identity in the agricultural decision making process. However, AFECs are formal structures and there is a tendency of politicisation and power relations amongst the AFECs executive members that is not yet as inclusive as desired (Schrader et al.: 2013).

A farmer states that “50% of women in DFG were found having taken actions against domestic violence, through mothers groups' solidarity” and that “social inclusion of the ultra-poor has contributed to mitigating internal conflict within the community” (SSMP: 2007 in Schrader: 2014).

It has also been reported that particular women's workload increases through applications of farmyard manure and cow urine on fields. However, women state that the additional work is compensated for by greater autonomy, a better social status, increased income, and easier access to money (Schrader: 2014, SSMP: 2007).

Learning: Strong and continuous gender and ethnic disaggregated monitoring led to such relatively high inclusion of women and DAG (Allen: 2014).

In many Nepalese districts, migration is rife among young men. Some left behind women could add value to their land, thus created an opportunity for the migrant husbands to return to, or to invest remittances.

Ecological effects

Already the name of SSM practices claim having positive ecological effects:

- feeding contributes to reduced grazing areas, prevents overgrazing and mitigates against consequent run off, soil erosion and land degradation.
- improved farmyard manure and cattle urine have a positive impact on soil fertility, water retention capacity and soil structure (Schrader: 2013)
- biodiversity of flora and fauna was found to be improved due to significant reductions in the use of chemical fertilisers and pesticides as well as SSMP's promotion of fodder trees and forage grasses. Survey results showed that the use of fertilizers decreased by 70%, and the use of pesticides decreased by 60%.

On the other hand, intensified crop production may have reverse ecological effects. This depends on the availability farmyard manure to maintain soil fertility.

6. Conclusions: Learnings and innovations from SSMP on how to reach large numbers of farmers with RAS

SSMP approached RAS provision from a technical and knowledge driven perspective. The underlying objective was to increase soil fertility and with that improve the livelihoods in Nepal's mid hills. The innovation of SSMP must be seen in its systematic action leading from pilot activities to an almost nation-wide extension system. SSMP therefore first developed and tested a basket of innovative SSM methodologies and supported the FtF dissemination of these SSM practices. The project then put lot of efforts 1) to institutionalise the technologies and the dissemination approach in the local government structure and national policies, 2) to integrate the approaches and technologies into the curricula of agriculture teaching institutions and 3) to anchor the proposed extension system into a public funding system. Currently the Government of Nepal further scales the approaches up and introduces the extension system in other districts of Nepal.



Figure 28: Sequences of SSMP project interventions to reach a country wide roll out of SSM practices and the FtF dissemination approach (author's own figure).

The strength of the above-described SSMP approach was that it first contributed to the development of technologies and to build capacities of AFECs and ELF. SSMP waited with policy work for institutionalising the approaches until AFECs and ELF had enough capacities to manage the RAS system, respectively to offer the required services.

Another innovative approach is the demand-side financing of RAS that is in place since phase III. The system evolved because subsidies for technical support were not allocated fairly among the farmer: Better-off farmers were often directly asked to demonstrate new and subsidised technologies and were thus privileged. That is why, the project started to provide the funds to farmer groups and not to ELF.

The project fund flow to the AFEC is insofar innovative as SSMP used the same channel to provide funds to the AFECs as the GoN. Accordingly, phasing out project funds does not evoke a change of the funding system, but means just less funds for AFECs. This may foster the system's sustainability.

Regarding to gender and social equity, the project was insofar innovative as included gender and DAG indicators from the beginning and monitored the process with a strong gender and DAG disaggregated monitoring tool. This allowed for the relatively high inclusiveness of the RAS system.

Finally yet importantly, SSMP used the existing acts and policies such as LSGA, National Agriculture Policy, Nepal Agriculture Extension Strategy, and the periodic development plans to anchor its contributions in the government system. This only allowed for the expected sustainability of the SSMP / AFEC RAS system.

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Stefanie Kaegi 05.05.2015

CAPEX Study 4: Capitalisation of Experiences of the Laos Extension for Agriculture Project (LEAP); Laos: 2001-2014

A study to capitalise experiences in SDC financed rural advisory services
programmes in Asian countries



Schweizerische Eidgenossenschaft
Confédération suisse
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Federal Department of Foreign Affairs FDFA
Swiss Agency for Development and Cooperation SDC
Global Programme Food Security



A+FS Network
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With family farmers towards
a world without hunger



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Summary

This desk study capitalises the experiences of the Laos Extension for Agriculture Project (LEAP) with the goal to derive learning from the project's successes and challenges. The study offers an overview of the rural advisory service (RAS) system before and after the project intervention and analyses in what way LEAP contributed to the current country RAS system.

The bilateral project was funded by the Swiss Agency for Development and Cooperation (SDC) with CHF13 million (178 CHF per household provided with RAS) and implemented by HELVETAS Swiss Intercooperation from 2001-2014.

Major achievements of LEAP

- Development of the Lao Extension Approach and its endorsement by the Government of Laos.
- 80'000 households provided with RAS; 0-50% are women, depending on crops.
- Targeting ethnic minority through selection of project area: 70% RAS users are ethnic minorities
- Significant productivity gains and income increase in the project area; quality inputs and continued support of RAS providers are considered key.
- 300 extensionists are trained on participatory extension methods; 30% of extensionists are women.
- Publication of technical and methodological brochures for RAS providers, diverse context and gender analyses.
- Establishment of the LaoFAB internet platform and library with almost 4000 users sharing information on agricultural development in Laos and Asia.
- Fund flows were used to strengthen decentralised funding of RAS

Derived learning

Successful intervention process: Continuous investment into capacity building of RAS actors / piloting and creating evidence of the approaches - > institutionalisation of the piloted methods -> scaling up

Capacity building:

- A training cascade is an adequate means to train a substantial number of extensionists. In order to function, training cascades require well educated and – equally important – well recognised master trainers.
- Sustainable and continuous research – extension – education linkages are key for the quality of RAS. Such linkages need to be institutionalised within the education system.
- Internship for students in RAS provision are a means to create research – extension linkages and to increase availability of future RAS providers.

Funding:

- Financial contribution of governments to RAS remain low as long as donor funds are available
- With its direction of fund flows LEAP contributed to decentralisation of public finances and decision power.
- LEAP was spontaneously made use of opportunities and though went beyond the scope of the existing comprehension of AS. This was only possible because LEAP had a flexible donor allowing for spontaneous decisions and a long-term project perspective.

Producer groups and government institutions:

- Working exclusively through government institutions may render empowerment of farmers challenging.
- Working with producer groups increases the outreach of RAS providers as well as farmers' potential to work with private companies.
- Gender and social equity criteria for the selection of group members are key for the long-term inclusiveness of the RAS system: Once established, producer groups remain over a long time.

Major challenges

- Politicized system with strong orientation to the party
- Selection of group members through village authorities render it difficult to reach the poorest. Still, poor farmers underrepresented in farmer groups and well off farmers favored

Acknowledgement

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Abbreviations

DAEC	Department of Agriculture Extension and Cooperatives
DAFO	District Agriculture and Forestry Office
LEA	Lao Extension Approach
LEAP	Lao Extension for Agriculture Project
MAF	Ministry of Agriculture and Forestry
NAFES	National Agriculture & Forestry Extension Service
NAFRI	National Agriculture & Forestry Research Institute
NGO	Non Governmental Organisation
PAFO	Provincial Agriculture and Forestry Office
PG	Production Groups
RAS	Rural Advisory Services
SSWGAB	Sub-Sector Working Group on Farmers and Agribusiness
VES	Village Extension System
VEW	Village Extension Worker

1. Introduction

1.1. Context of the Lao Extension for Agriculture Project (LEAP) intervention

Laos is a land-locked, tropical country dominated by hilly landscapes. In 2012, Lao population counted 6.6 million persons living on an area of 236'800km². Laos is characterised by a mosaic of approximately 150 ethnic groups, which can be divided into four linguistic families. The backbone of Laos' economy remains agriculture, which accounts for about 25% of GDP and 73% of total employment. Agriculture is dominated by rice production. From 2008-2013 Laos' economic growth reached 7% per year, but despite this high growth rate, Laos remains a country with an underdeveloped infrastructure, particularly in rural areas.¹² While there has been an improvement in food security at the national level, child malnutrition remains a serious problem in remote parts of the country due to complex factors.

In the 1960's and early 70's Laos was badly affected by the 'Secret War' during which the Americans dropped huge amounts of bombs on the country, which continue to cause problems for rural people. The war ended in 1975 when the Lao People's Revolutionary Party (LPRP) came to power.

The following graphics enlighteningly show the evolution of the project's context from 2001 to 2012.

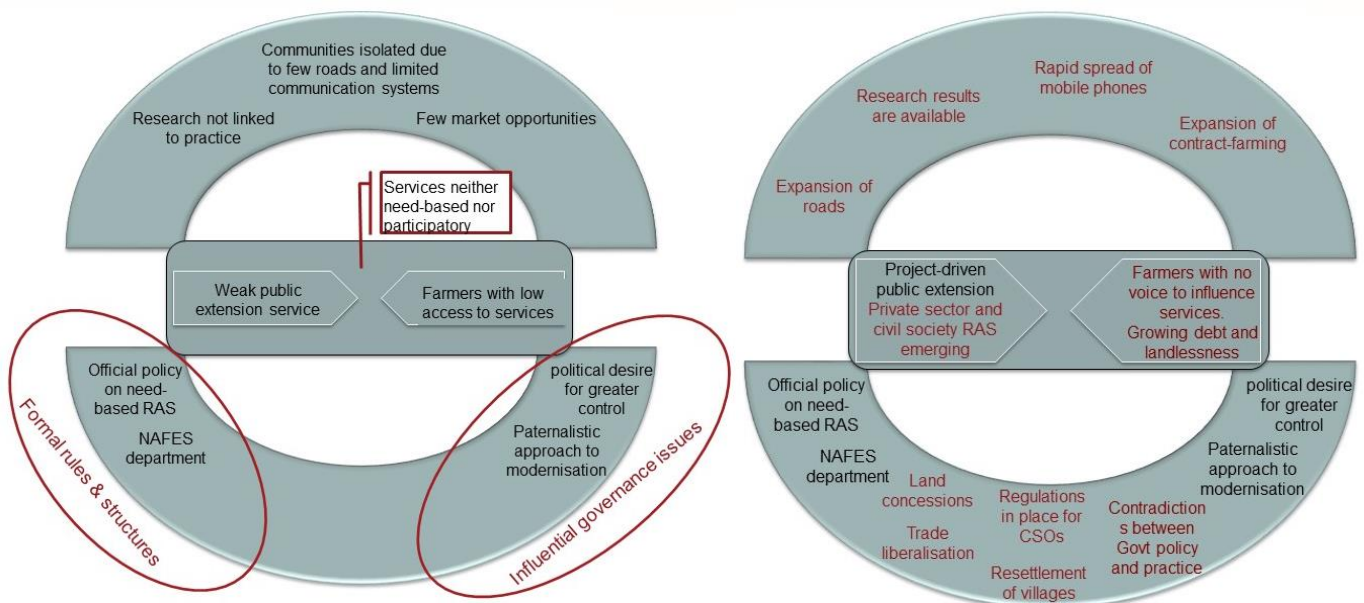


Figure 29: Context of LEAP in 2001 (left) and in 2012 (right). (Bartlett & Ruegg: 2012)

Since Laos is a communist one-party state, it is eventually the party setting the political agenda (Schmidt: 2009). On the one hand, the Party intends to keep control over rural economy, while on the other hand, the Government's extension policy declares its interest to strengthen participatory RAS approaches in the public extension system (ProDoc 5: 2012). Whereas, these contradicting characteristics of the political framework for public agricultural extension remained over time, the economic and social context of farmers significantly evolved in the course of LEAP: Access of farmers to markets has increased thanks to emerging market actors and thanks to the expansion of the road system. Research has become stronger linked to extension and mobile technology spread throughout the country enabling also remote farmers to access information. Trade liberalisation boosted cash crop production for exportation, so by the end of 2010 more than half a million hectares was planted to export crops. This led to improved farmers' income, but there has also been an increase

¹² www.indexmundi.com/laos/economy_profile.html, accessed: January 2015

in soil erosion, misuse of pesticides, indebtedness and a loss of access to traditional foods. Meanwhile, farmer organisations are emerging and some of them are already able to support their member with basic processing, extension and marketing activities.

Despite these evolutions, farmer groups are still weak, the policy context for agricultural extension remained volatile, and the government does not yet financially maintain agriculture extension across the country.

1.2. The public extension system in Laos before the project intervention

Public extension services are the responsibility of the Ministry of Agriculture and Forestry (MAF). In the past, these services were fragmented among various Departments (e.g. Crops, Livestock, Irrigation, etc.) with no coherent strategy. Methodology tended to be top-down, focussing on a small number of 'model farmers'.

In 2001, the National Agriculture and Forestry Extension Service (NAFES) was established, with a status comparable with a Department of the MAF. NAFES had the duty to organise and implement the agriculture and forestry extension activities across the country (MAF: 2001). Initially, NAFES had low capacity to strengthen and support the RAS system in the field. After a decade of capacity-building by the project, NAFES was converted into the Department of Agriculture Extension and Cooperative (DAEC), with the same function as the NAFES, but a higher degree of institutionalisation.

The Provincial Agriculture Forestry Offices (PAFO) are responsible for extension services at province level. They receive funds from the Provincial Government, not from the NAFES. PAFOs are with about three employees weakly staffed and – besides a minimal reporting duty – not directly linked to the NAFES. Selection and promotion of staff is often influenced by personal and political connections rather than technical competence. Affiliation factors and workplans are often based on the priorities of the Party rather than the needs of local farmers.

The District Agriculture and Forestry Offices (DAFO) were expected to provide services to farmers, however they were as weakly staffed as the PAFOs and did not reach out to farmers, except from some mass information meetings, where farmers received incentives for participation. The public extension system did not reach out to the village level, however, many foreign projects provided extension to farmers, often also combined with financial incentives and input supply (Bartlett: 2014).

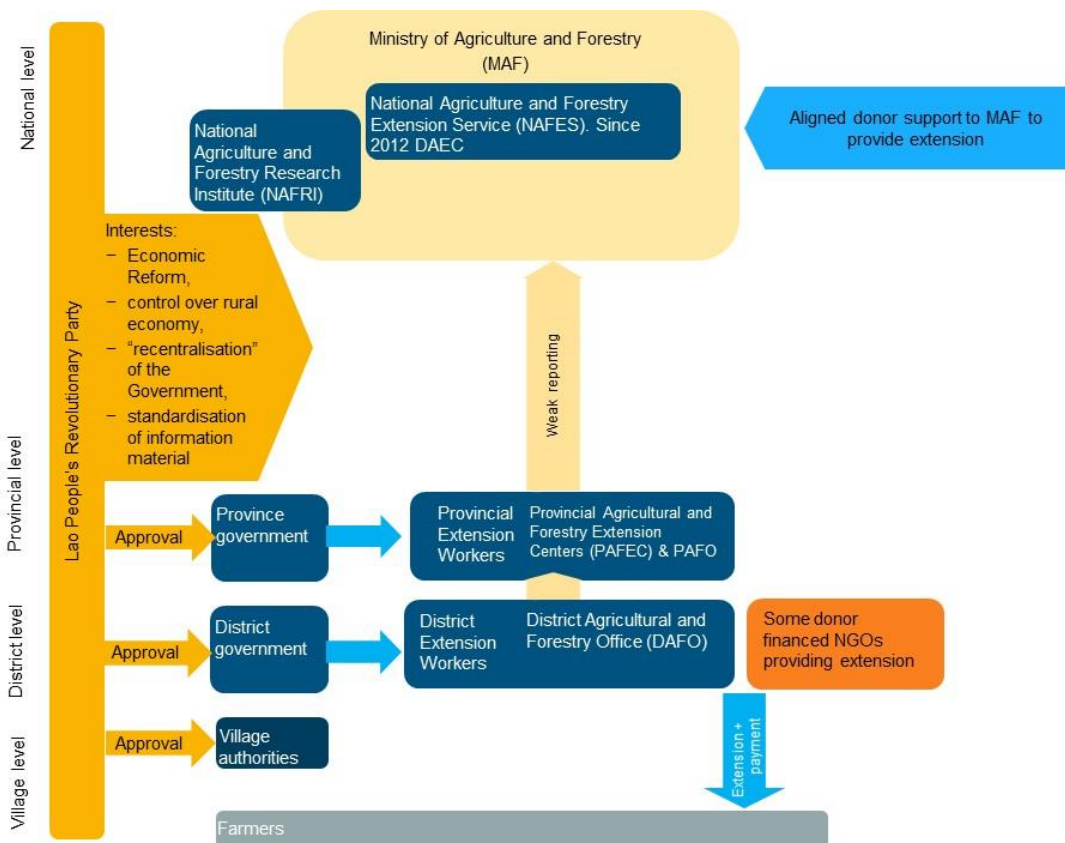


Figure 30: Public extension system in Laos before the project intervention. Dark blue = Public institutions, Yellow = Communist party; orange = development projects, turquoise = flow of finances. (Author's own figure)

Fund flows within the public RAS system:

The flow of government funds in the agricultural extension system is highly decentralised: the agricultural extension activities of the provinces and districts are financed not in a top-down manner by the MAF, but from the treasuries of provincial and district governments. However, the government budget allocated for agricultural extension did not cover service provision to all farmers. That is why, until today, the operational costs of agricultural extension are largely covered by development projects. Consequently and despite LEAP's attempt to promote a coherent extension strategy with an approved methodology, the public RAS system remains a patchwork of different approaches funded by various stakeholders. Furthermore, the extension activities supported by international donors and NGOs are now becoming marginalised as private companies expand their operations via land concessions and contract farming. (Bartlett: 2014)

1.3. Relevance of LEAP

With 73% of the workforce employed in the agricultural sector, Laos is a nation of smallholders. But despite the country's richness of natural resources, its improvement in rural infrastructure and communication technologies, and the massive increase in the production of cash and export crops, profitability and productivity of agricultural production remain low. When the project embarked in 2001, the Government of Laos (GoL) was – beside some donor funded extension projects – the exclusive extension service provider in the country. The public extension system was not equipped and staffed in a way that it reached out to smallholder farmers.

That is why, in 2001, the GoL decided to improve its extension system through administrative decentralisation and increased participation of farmers. In the frame of its development cooperation with Laos, SDC offered the GoL to support the development of demand-driven, and participatory public RAS system. The joint objective of the GoL and SDC was to "develop a decentralised, participatory, pluralistic, and sustainable agricultural extension system that would benefit poor and less poor, men and women farmers equally." Helvetas was mandated by SDC to implement the LEAP project (GDR: 2010).

2. Contributions of LEAP to the public RAS system

This chapter describes how LEAP contributed to the public extension system and discusses the project's efficiency and effectiveness.

LEAP set out in 2001 with **the goal** to develop a decentralised, participatory, pluralistic, and sustainable agricultural extension system that would benefit poor and less poor, men and women farmers equally (LEAP: 2002). This objective is firmly anchored in the Policy of the Government as expressed in the Prime Ministers Decree 01/2000 and in the "Strategic Vision for the Agricultural Sector" of the MAF. The documents promote the improvement of administrative efficiency through decentralisation, and encourage participation of farmers as a core element of agricultural extension.

SDC financed LEAP with about **CHF 13 million in 13 years**, while the GoL contributed with around half a million USD (LEAP 2005-2014). LEAP's contributions to the public RAS system based on the following impact logic:

- 1) If the government's extension staffs are well-trained on participatory RAS methods, they will provide need-based services.
- 2) Need-based services are better adopted by farmers than top-down extension services.
- 3) Farmers' adoption of improved farming practices leads to poverty reduction (Schmidt: 2009; Bartlett: 2012).

Further, LEAP made the assumption that the GoL will bear the costs for such need-based RAS delivery if once an efficient and effective extension system has been established.

Effects: In general, the experiences of LEAP showed that the project contributions, however well they matched to official policies, were only effectively implemented when they matched to the interests of the Lao People's Revolutionary Party, too.

The following figure summarised LEAP's contribution to the country RAS system.

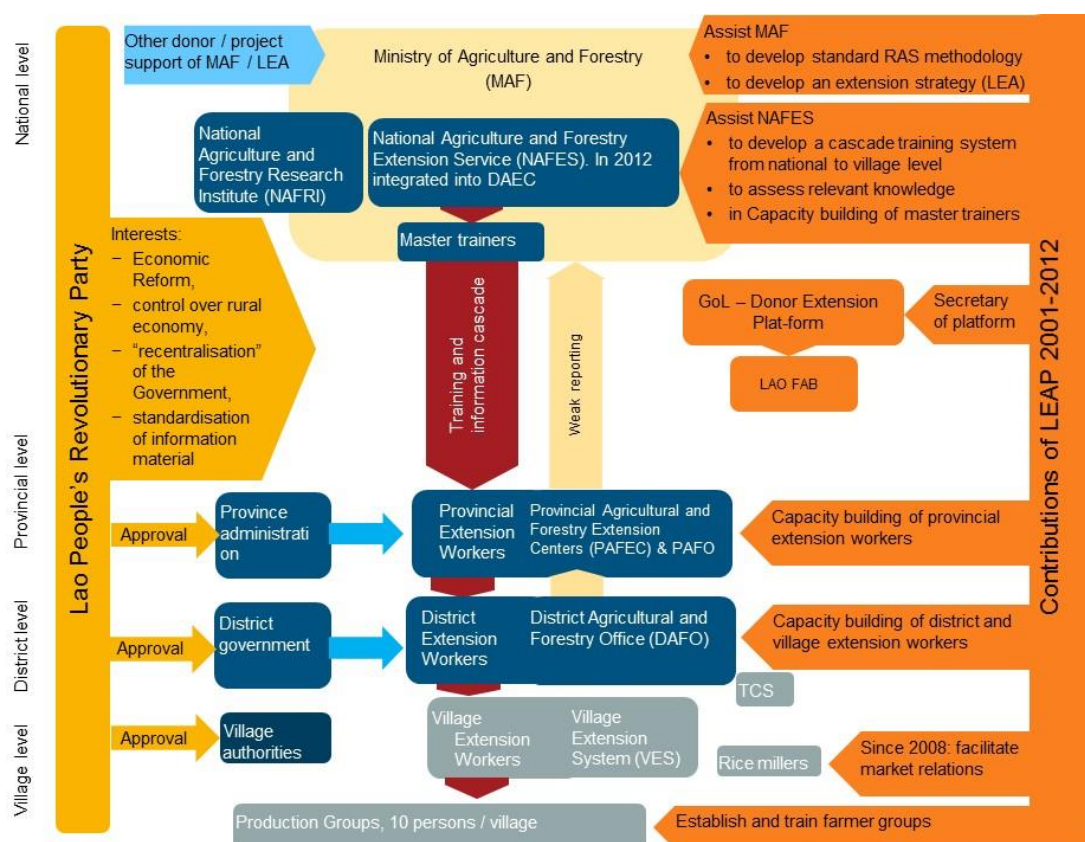


Figure 31: Contributions of LEAP to the country RAS system: blue = public institutions // orange = LEAP's contributions // yellow = Lao People's Revolutionary Party // turquoise = existing fund flows // red = training cascade // grey = other institutions (author's own figure)

2.1. Contributions to the RAS design

Instead of promoting a new, parallel RAS system complementing the public extension system, LEAP developed a methodology to shift the existing public extension system towards decentralised, sustainable, pluralistic, demand-driven, and participatory RAS delivery. This chapter describes LEAP's contributions to this shift.

1.1.1. Contributions to a decentralised public RAS system

The original government extension system based on the NAFES, the provincial and district extension offices. In order to strengthen the RAS system's outreach to the farmers, LEAP supported the establishment of a Village Extension System (VES) by building capacities of village extension workers (VEW). LEAP facilitated and motivated the district extension bodies to engage (no salary was paid) these local extension workers to conduct training and planning activities with farmers (Alton et al.: 2008).

Bartlett (2014) states that this VES that was conceived as a farmer-to-farmer extension approach did not really come into function. This can be explained with relatively low capacities of the VEWs compared to the district and province extension officers. The latter accordingly remained the main implementing units for extension. In order to foster decentralised financing of RAS delivery, LEAP channelled the project finances directly through the provincial and district bodies and not through the NAFES. With this, LEAP fostered not only a decentralised financing mechanism, but also the decentralisation of decision power within the extension system – a “side-effect” that could for political reasons not have been achieved, if the project would have addressed it directly.

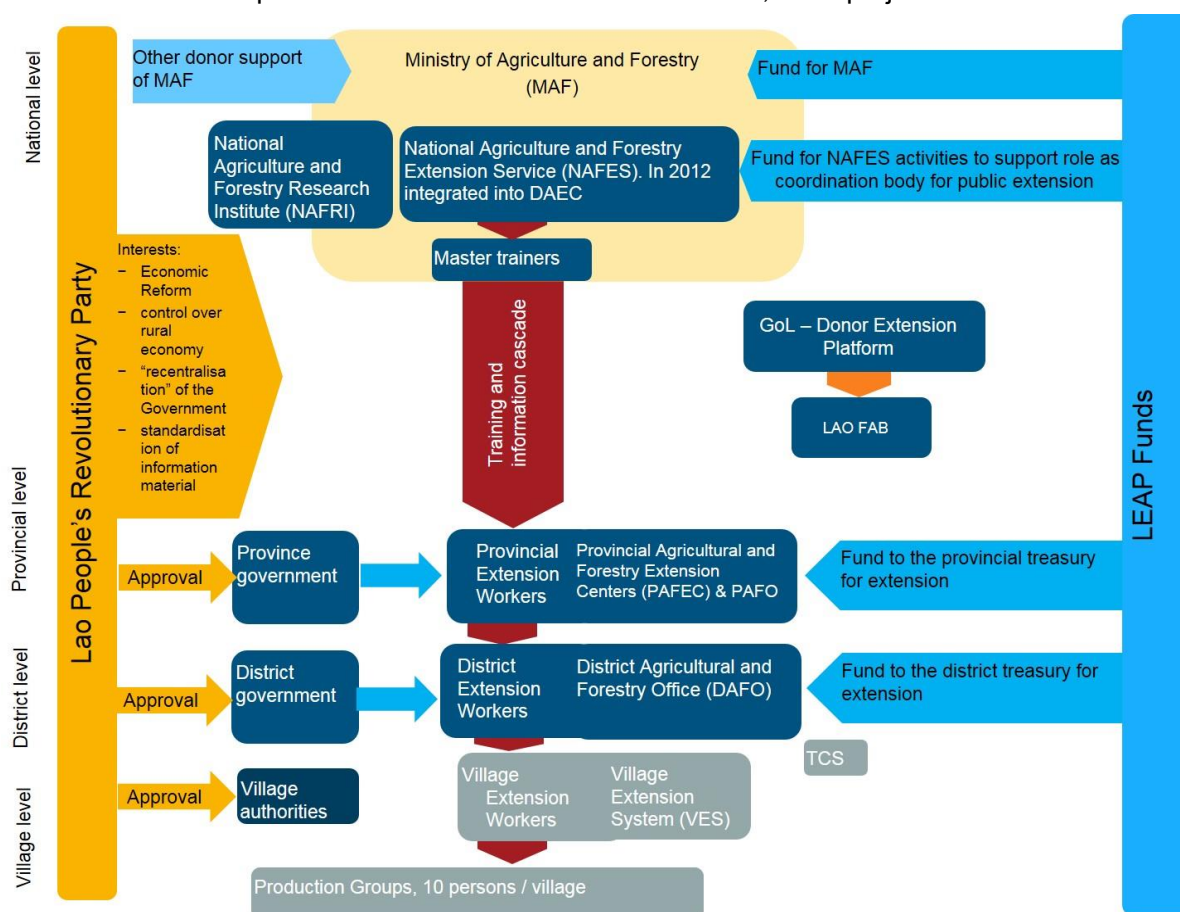


Figure 32: Contributions of LEAP to the public extension system. Dark blue – the GoL extension system, turquoise – LEAP's contributions and fund flows, grey – training cascade, yellow – Lao People's Revolutionary Party. (Author's own figure)

1.1.2. Contributions to a participatory and demand-driven RAS design

LEAP made the assumption that participation in extension and planning processes leads to demand-driven services. The project thus developed the Lao Extension Approach (LEA) that comprehensively describes

participatory extension methods and planning tools (see chapter 2.4). To demonstrate the benefits of such participatory extension methods and to train extension staff on LEA, the project piloted the LEA in three provinces, and subsequently scaled it up to all 17 provinces of the country.

Effects: A demand-driven extension system requires strong capacities of both, the demand and the supply side of RAS. Regardless of the good intentions of stakeholders at the national and provincial level, the fact that the project almost exclusively worked through government agencies systematically limited the project's effectiveness in strengthening the demand side of the RAS system. Government institutions provide RAS to farmers according to their (politically viable) preferences. They cannot be the right actor to empower farmers to advocate for their needs regarding to public extension provision. That is why, the programme has had mixed and limited impact in terms of creating a demand-driven extension system. The midterm review team (MTR: 2010) states that “most of those interviewed appeared to understand the concept of listening to farmer demands, but the tendency to focus overwhelmingly on three technological packages raises questions about whether this has led to significant change in practice. Policy targets clearly appear to weigh heavier in decision-making than farmer demands.” (MTR: 2010)

Further, the MTR team (2010) suggests that farmers “do not expect to be able to make demands on public extension and it would be unrealistic to assume that the modest training inputs of LEA can make more than a small contribution to reversing the historical roles of state and citizens in Laos.” (MTR: 2010)

To foster farmers' advocacy capacities and thus render the RAS system demand-driven, the project should have had an additional component to work directly with villagers, independently of the GoL's interests. The follow up project of LEAP will consider this.



1.1.3. Contributions to a pluralistic RAS system

The GoL has long been the exclusive extension service provider in Laos, while private sector and civil society RAS are only slowly emerging (Munankami: 2014b). Up to phase 4, LEAP was reluctant to strengthen private sector involvement in the extension system. First, because LEAP embarked as a government project and thus concentrated on the government side of extension. Second, because most private sector companies entering Laos focused on exporting cash crops, such as maize for animal feed or rice for rapidly growing neighbouring economies. LEAP was not convinced about the benefits of such agricultural development, in particular regarding to food security of smallholders. However, LEAP's reacted on the rising number of private companies involved in agricultural activities by introducing LEA+ in 2008. LEA+ aimed at strengthening trade partnerships between private companies and producer groups (PG). In order to strengthen the bargaining power of PGs when working with output and input companies, LEAP supported the establishment of PG networks. Further, LEAP advocated for mainstreaming best practices of public private partnerships using the example of established partnerships between the GoL, rice millers and PGs. However, the project's location in the central Government body constraint LEAP to directly engage with private companies, PGs and their associations. Accordingly, the promoted public RAS system remained rather one-dimensional.

Effects:

- Strengthening associations of PGs led to the establishment of some groups such as the Khoun Association for Sustainable Agriculture (FASAP). These groups themselves access donor fund to provide extension and organise market linkages.
- About 160 rice production groups (6321 families in 12 districts) were established in partnership with rice millers to produce rice of better quality for the export market. These smallholders could increase their income. (LEAP: 2012)
- LEAP was not successful in making the GoL paying the additional costs of the LEA+ approach, which aimed at strengthening private sector involvement. Instead, NAFES has been capacitated to access additional donor funds for extension services, which may be implemented according to LEA+.

Table 9: Pluralistic dimension of the country RAS system: black/fat = project supported RAS/funds (expected to sustain); orange/italic = RAS/funds replaced or complemented by donor funds 3) green/thin = RAS/funds not tackled by the project (adapted from Anderson and Feder (2004))

Source of finances for services	Service Providers					
	Public sector	Private Sector			Civil Society	
		Input supplier	Processors / traders	Private RAS providers	NGO	Producer organisations
Public structures	<i>NAFES, PAFES, DAFO (the project's expectation)</i>					
International NGOs / Donors	NAFES, CETDU, PAFES; DAFO, VES (actual situation)				International NGOs / projects providing services to farmers	Khoun Association for Sustainable Agriculture (FASAP)
Private companies		Emerging embedded services	Rice millers; emerging traders and processors			
Farmers						Farmer to farmer extension through volunteer village extension workers as proposed by LEA
Producer Organisations						

1.1.4. Contributions to an inclusive RAS system

LEAP recognised the increasing importance of women in agricultural production and contributed to enhance the role of women in agricultural extension as follows:

- LEAP included a gender perspective into all published materials such as hand-outs, training manuals, brochures, newsletters, video, and posters.
- LEAP contributed to the development of a gender code of conduct in order to promote women working in agricultural extension.
- LEAP sensitised government officials of all administrative levels to the importance of women in agricultural development and supported women to work in agriculture extension. It therefore facilitated NAFES staff to train extensionists and government officials at national, provincial and district level on the role of women in agriculture. (LEAP: 2012)
- In 2010, LEAP published a series of case studies on female extensionists in order to promote women's importance and skills in the field of agriculture extension. (LEAP: 2012)
- LEAP entered into a partnership with the MAF gender division, which resulted in workshop launching the new MAF Gender Strategy, a quarterly gender newsletter, an annual gender conference on gender and agriculture. (LEAP: 2012)
- LEAP has also been a flag-bearer for promoting women's roles in the MAF: 30% of the trained extension workers from NAFES to VES level were women (Munankami: 2014b).
- LEAP promoted the idea of “extension for all” and strengthened the government to reach out to villages, also in remote area with a high share of ethnic minorities.

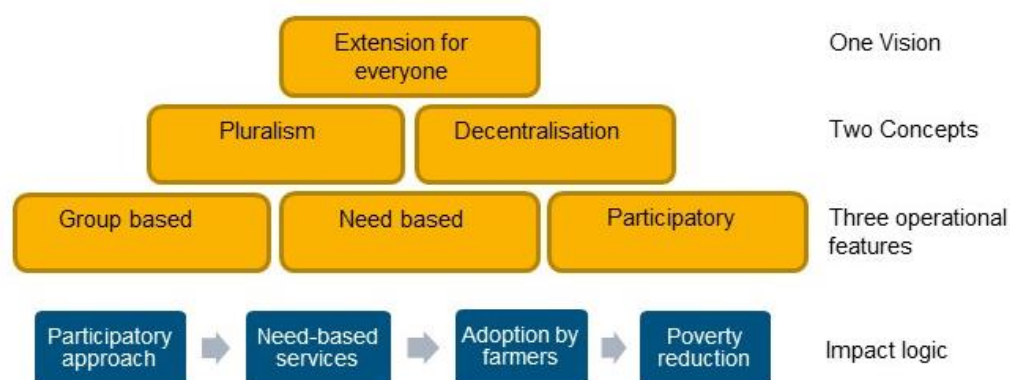
Effects: The above-mentioned contributions are arguments to believe that LEAP had a positive effect on the future RAS system's inclusiveness: It anchored gender in extension; it fostered poverty orientation of extension; and it consequently included ethnic minorities into extension activities. Also as result of LEAP's contributions, the number of women in a decision maker position is increasing at all levels, in particular at provincial level.

However, there is still a long way to go: Yet, only few female extensionists are indeed working at district and village level, and the monitoring and evaluation system with regard to gender inclusion is not yet systematically established. Further, the selection of producer group members has shown to give preference to better-off male farmers and to exclude persons not speaking Lao, thus women and ethnic minorities (see chapter 5.2).

2.2. Contributions to extension policies

LEAP significantly contributed to the national extension policy of Laos. It developed the LEA, piloted it and achieved its endorsement by the MAF in 2005. Eventually, the GoL accredited the LEA as a best practice for public extension service provision.

Reasons for the successful institutionalisation of LEA: In Laos, national decrees and directions seem eventually to align to Party decisions. Therefore, it was crucial for LEA's institutionalisation that the approach was in line with the Party's political interest. By proposing to organise farmer groups and to standardise information material and extension delivery methods, LEA went in line with the interest of the Party to gain greater control on rural economy (Bartlett: 2013). Thus, its institutionalisation was supported not only by the official national development plans, but also by the Party. Bartlett (2014) considers the name "Lao Extension Approach (LEA)" also crucial for its success: It summarizes a whole package of methodologies and in the same time creates local identity. Further, LEA has a clear vision, concept and operational feature, which render the approach easy to understand and promote.



Learning: LEA is a basic RAS approach applicable for various objectives, regions and subjects. It has thus the potential to be applied by the GoL as soon / as long as funds for extension activities are available.

Learning: The reason for the great impact of LEA in the Lao extension system is seen in the combination of the careful description of LEA, the wide-ranging trainings on participatory extension methods, and LEAP's efforts to institutionalise LEA at national level.

2.3. Contributions to RAS contents and capacity building

1.1.5. Development of RAS contents

LEAP built capacities of NAFES staff to develop and distribute useful extension manuals, pamphlets, posters, guidelines, videos etc. by involving needs assessment of target groups and field testing. In the framework of these capacity building activities, LEAP jointly with NAFES developed an impressive bunch of RAS materials and studies.

Effects: The elaborated information material is considered a major contribution of LEAP to the extension system. In total, over 400 wisdom bags were disseminated to village, district, provincial agriculture offices and development partners, where they are available for extension workers up to date.

1.1.6. Capacity building of extension staff

There is no in-house extension training centre at MAF to transmit up-dated knowledge to extension workers at district and province level. That is why, the project supported the establishment of a capacity-building cascade based on the following idea: LEAP builds capacities and skills of so-called master trainers that are situated at NAFES. These master trainers elaborate training and information materials in a participatory way. Then, the master trainers build capacities of specialised extension workers at province level (PAFEC), which further train generalist extension workers at district and possibly village level. (Munankami: 2014b; Bartlett: 2012) With this training cascade, the project aimed at training a significant number of extension workers, and to react on frequent extension staff turnover and related loss of knowledge.

Further, LEAP supported 20 students to complete internships with on-hand practical working experience and research in the field.

Learning: The capacity building cascade was a new approach in Laos and filled the gap of the missing internal training centre for extension workers. However, due to limited trust into master trainers, the functioning of the cascade was not

Learning: Offering internships to students to do field research and learn extension methodologies as a way to train future extension workers on the LEA approach.

Effects: Based on the extension cascade, LEAP managed to train some hundreds of extension workers at national, province and district level, which will stay in the country and in the agricultural sector also after the phasing out of the project. These extension workers have learnt what extension is (opposite to the prior instruction), they understand what participation means, and they do know extension functions, planning and training methods, as well as contents.

Where applied, the approach has proven to work successfully (increased productivity and income on farmers' level).

Many of the trained extension staffs are currently working and able to organise participatory extension according to LEA. (Bartlett: 2014)

The sustainable functioning of the capacity-building cascade, however, is limited by the following facts:

- The master trainers were employed directly after their graduation from higher agricultural education, while the Province and District extension staff were experienced, often elder government officials. This led to the situation that master trainers needed the support of higher officials from NAFES or MAF to effectively train provincial and district extension staff. This made the training cascade highly resource demanding.
- Decentralising extension education by enabling provinces to train the district extension workers, means handing over yet centralised decision power to the provinces and districts. That is why, the national master trainers often trained both, the province and district staff. This constrained the specialisation of province staff, which should have been educated to train district workers, but instead participated in the same general trainings as district workers.

2.4. Contributions to RAS methods

In the former command economy, extension workers rather instructed farmers, than advise them what and how to produce (Schmidt: 2014). The idea of a participatory agricultural extension was new in Laos. A major contribution of LEAP is thus the development of a standardised methodology (LEA) for public extension that comprehensively describes how to carry out participatory extension and its planning. LEA encompasses the following tools, which are described on approximately 120 pages. Each module includes necessary instructions and schedules for RAS sessions that enable extension practitioners to easily implement the proposed methods:

- 1) The village extension system
- 2) Training needs assessment
- 3) Constraints analysis
- 4) Coaching and monitoring tool
- 5) Farmers exchange with farmers
- 6) Expansion of the village extension system

Learning: Establishing farmer groups in the frame of LEA pilot projects, introduced a new paradigm of extension into the country RAS system that based mainly on the model farm approach. Later, these producer groups served as a basis to work with the private sector.

LEAP put great effort on piloting and institutionalising these methodologies. As written in chapter 2.2, LEA was endorsed by the MAF in 2005. In order to promote the use of the methodologies, LEAP strengthened the capacities of the government officials to provide services according to LEA. As a result, the public extension system is now equipped with material and capacitated staff to deliver extension according to the LEA – this is expected to happen at least as long as funds for extension are made available.

LEAP was one of the first programmes that started to work with farmer groups and did not use the model farm approach, as it was usual at the time the programme started (Munankami: 2014b). In the frame of its pilot activities for LEA, LEAP established at least one producer group (PG) in around 500 pilot villages. The master trainers were eager to limit the number of PG members to 10 farmers, although the project could have reached much more farmers through larger PGs (Bartlett: 2014).

2.5. Financial contributions

With the adoption of the Vientiane Declaration in 2006 – the local version of the Paris Declaration on Aid Effectiveness – donors agreed to channel aid-flow through government agencies. The Vientiane Declaration rendered it almost impossible for donors to provide funds to civil society organisations, which anyway barely existed at the time LEAP set out.

As described in chapter 2.1, the finances of LEAP were directed to the NAFES, PAFOs and DAFOs and not to the MAF. With that, LEAP supported not only decentralised funding but also decentralised decision processes in the public extension system.

LEAP received from SDC in total about CHF 13 million from which approximately 50% was spent for extension activities at provincial and district level. The GoL contributed \$ 474'760 respectively around 14% of the operational costs of the RAS system. This was mainly for staff salaries and office infrastructure, not for RAS provision. Since the major donors have committed themselves to alignment and harmonisation, and since LEA was declared the official extension approach, the GoL was able to encourage other donors to invest into the LEA up-scaling process. Hence, other donors have contributed to the LEA introduction process, too, particularly where PAFOs took the lead in “marketing” the LEA. (ProDoc III: 2007)

Learning: With the direction of fund flows the project strengthened decentralisation of public funds and decision power within the public RAS system.

Effects: LEAP's financial contribution made the government offering extension services according to LEA to about 80'000 farmers. With its contributions, LEAP did not aim at a financial contribution of farmers to the RAS system, which still rely on continuous government or donor funds. Since governments optimise their use of funds, they will not bring up finances for the extension system as long as international public grants from donor agencies or affordable loans from international finance institutions are available to fund RAS. Governments prefer to spend scarce tax payers money for other purposes. Therefore, the real proof about a governments' readiness to finance RAS is only then when there is no more external funding, and this is not yet the case.

2.6. Contributions to networking and coordination

As result of becoming the Secretariat for the Sub-Sector Working Group on Farmers and Agribusiness (SSWGAB) LEAP succeeded to create a GoL-Donor Platform. This was possible because LEAP was able to offer spontaneously to found such a platform when an opportunity arose at a sectorial meeting. Without the liberty to make such long lasting decisions spontaneously, LEAP could not have made use of this opportunity and probably no GoL-Donor platform would have been established or sustained. In the role of the Secretariat of the SSWGAB, LEAP was able to contribute to a policy dialog on issues critical to the viability of smallholders. Based on the donors' expectation to limit the numbers of meetings for the SSWGAB, LEAP created the e-platform LaoFAB for knowledge and experience exchange. Started with 20 members, LaoFAB soon has grown to the largest forum for sharing information on agriculture in Laos.

Learning: LEAP succeeded to create the GoL-Donor Platform because the project was able to act in a spontaneous and flexible manner. This requires a flexible donor and a long-term perspective. Both were given in the case of LEAP.

Other networking activities included:

- Working with farmer group is one of the principle of LEA. Accordingly, LEAP supported the foundation of more than 500 learning groups, 156 rice production groups and a farmer association enabling

producers' access to services and improve bargaining power. As result of LEAPs networking support, seven learning groups merged to the Khoun Association for Sustainable Agriculture (FASAP) that now itself access funds and delivers training to more than 230 members. (LEAP: 2012)

- In 2008, LEAP promoted the LEA+ approach that includes stronger linkages with the private sector. Under LEA+, LEAP linked farmers to input suppliers or processing companies. However, private sector companies are still barely active in RAS, and the project established links mainly between rice millers and farmers.

Effects: Today, LaoFAB counts almost 4.000 members and many of them actively contribute with news and studies on the agricultural sector related to Laos and Asia, mainly on agribusinesses. The maintenance of LaoFAB was handed over to the local service provider CLICK. Recently, Sierra Leone and Myanmar copied the LaoFAB approach for knowledge sharing and created their own SaloneFAB and MYLAFF, respectively.

2.7. Contributions to the agricultural knowledge system

Most of LEAP's contributions to the agricultural knowledge system have been effective during the time of the project's support, but probably do not leave long-term linkages. An exemption is the institutional support of the NAFES, later DAEC as extension unit under the MAF. With such institutionalisation, the project supported the linkage between extension (NAFES) and research (NAFRI). LEAP also assisted linkages to education institutions, but these could not be established in a lasting way (LEAP: 2002; Schmidt: 2014; Schmidt: 2009). Up to date, there is no extension training centre for future extension workers that would institutionalise the link between education and extension.

Due to the lack of an extension training centre, LEAP supported a training cascade from NAFES to village level. This training cascade is not considered sustainable, because of lacking political interest to strengthen the training capacities of lower administrative government bodies. This could have led to weaker control over training contents (Bartlett: 2014).

LEAP created linkages between the MAF and mass media institutions that have the potential to sustain after the project's phasing out, given the case that finances are made available. Related contributions are the establishment of a text message service that is implemented by NAFES and reached more than 1000 users in 2012. Further, LEAP facilitated the publication of over 4,000 English and Lao prints, and the foundation a weekly national radio show related to agriculture outreaching to over 40,000 listeners.

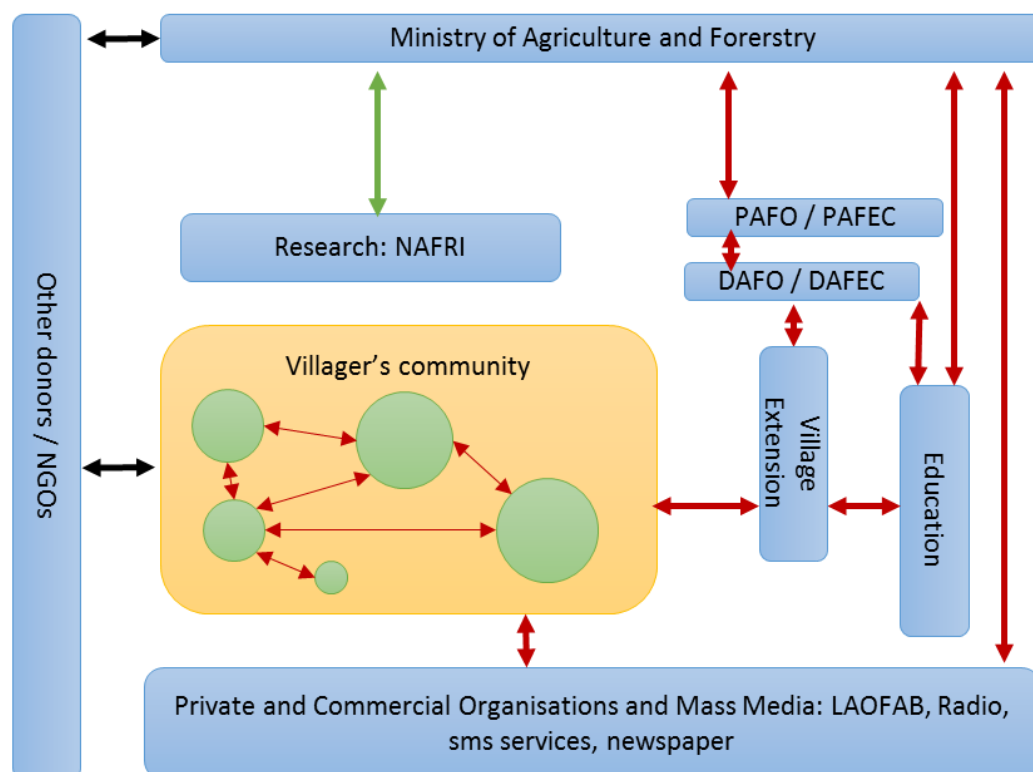
LEAP also contributed to agricultural knowledge development: Beside the advisory contents and methodologies that LEAP developed, the project jointly with diverse partners, produced 13 case studies and lessons learned reports and 10 studies exploring critical issues regarding extension policy and service delivery. Additionally, three thematic conferences on upland rice-based farming systems, women in agriculture, and pluralism in service delivery have been organised (LEAP: 2012).

The following figures summarise the linkages within the agricultural knowledge system.

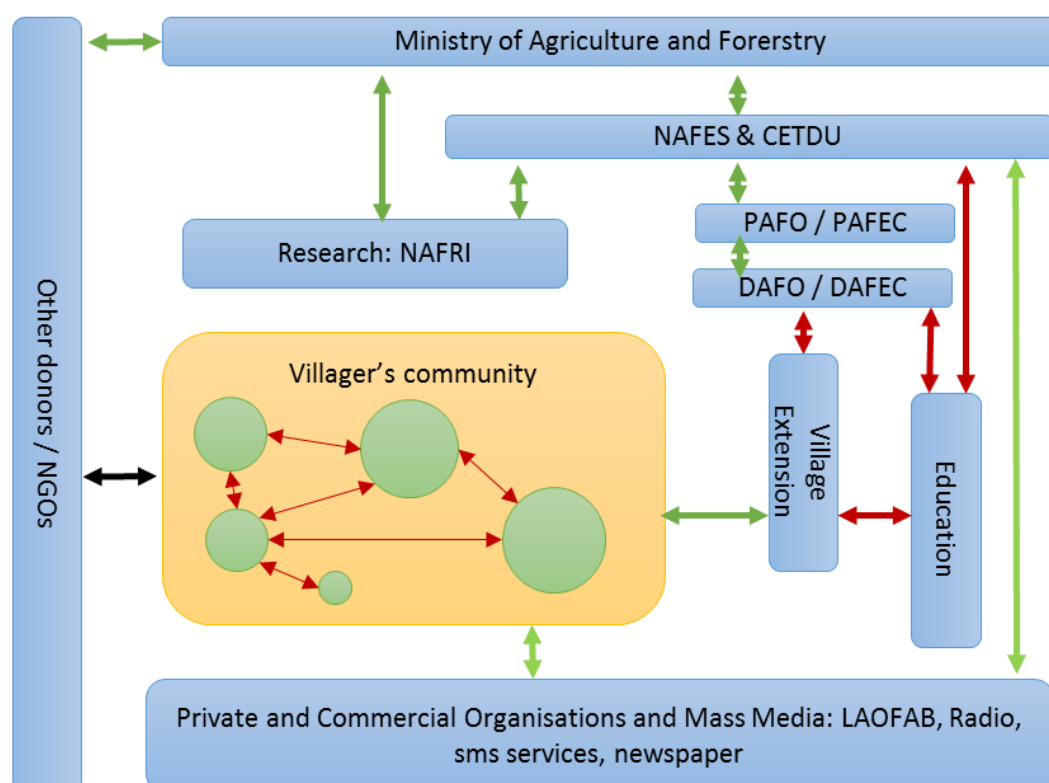
Learning: In Laos, access to knowledge and information was considerably limited, which created a great demand for knowledge sharing. LEAP reacted on this with the creation of the e-platform and library "LaoFab", and created an opportunity for everybody to share and access agricultural information.

Figure 34: Agricultural knowledge system how it is expected to be after the project intervention. Green/fat arrows – functioning linkages; red/dashed arrows – not institutionalised linkages; black/thin arrows – linkages not touched by the project intervention (author's own figure).

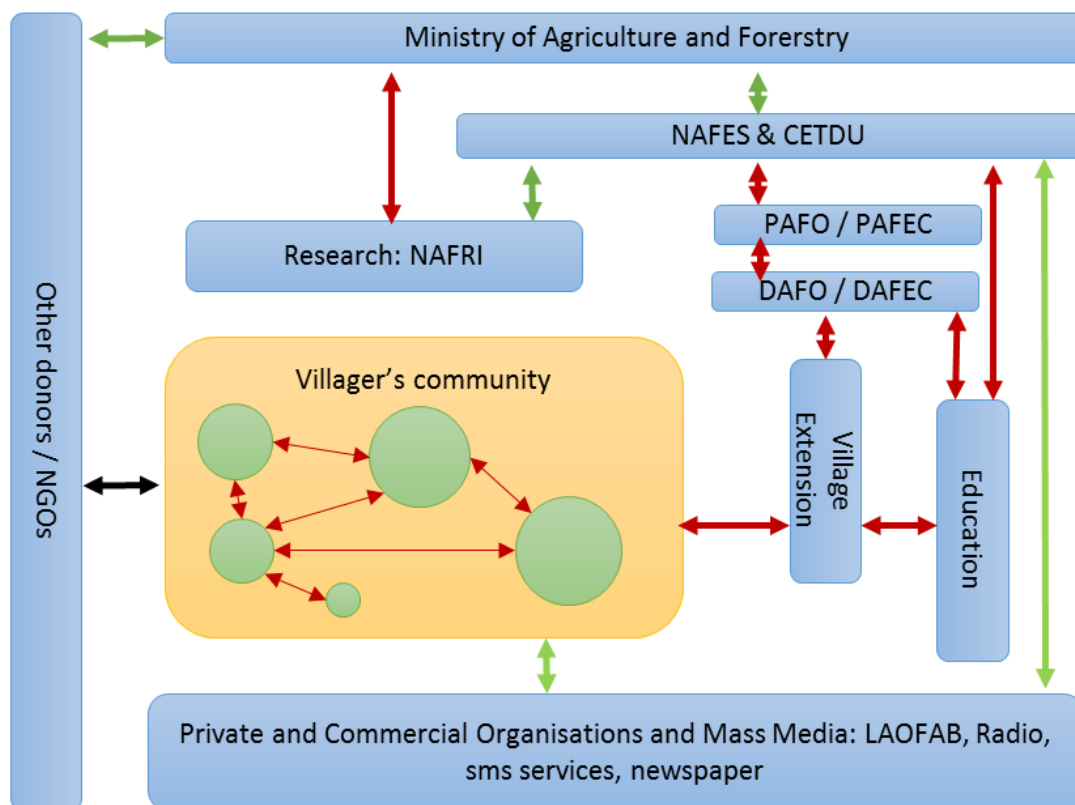
Before the project intervention



During the project intervention



After the project intervention (assumption)



3. Efficiency of the contributions

This study calculates efficiency based on a very rough calculation dividing the total project costs by the number of farmers reached with RAS.

$$\text{Efficiency} = \text{Total project costs} / \text{number of farmers reached with RAS}$$

Since LEAP uses households (hh) and not farmers as indicator, this calculation also bases on hh.

There are approximately 750'000 rural hh in Laos, with at least 150'000 hh living in conditions of poverty. Up to 2014, the activities supported by LEAP have reached about 10% of these clients, respectively 80'000 hh. (LEAP: 2014)

The total project funding over the five phases from 2001-2014 is 13'326'143CHF. This results in a cost of 178 CHF per hh that received public RAS.

$$13'326'143\text{CHF} / 80'000 \text{ households} = 166\text{CHF} / \text{household}$$

4. Effectiveness of the contributions

Seeing the project goal to support the development of a decentralised, participatory, demand-driven, pluralistic RAS system, the **endorsement of LEA** in the national extension policy is considered the main achievement of LEAP.

With the above-mentioned contributions, LEAP has **supported 80,000 families** with RAS and **trained more than 300 agricultural extension staffs** (LEAP: 2012). Although the GoL may not sustainably finance these extension services, the trained extension staffs will keep their knowledge also without further financial contributions.

Bartlett (2014) sees a great chance that LEA will be further carried out, because yet donors largely support the MAF. For some of these donor funds the MAF and NAFES have to develop suitable extension activities. In these situations the LEA can/will serve as a basis for new extension projects.

The project can also be credited with having played an essential role in **strengthening NAFES'** legitimacy as an important actor in Laos' rural development, and thus keeping extension on the rural development agenda (MTR: 2010). This becomes particularly evident by the fact that a new **Department for Agricultural Extension (DAEC)** was founded based on NAFES.

Further, the project has been effective in **developing extension materials**, in particular on participatory extension methodologies, but also content specific e.g. for rubber and rattan production, animal husbandry, or rice production. Compared to 13 years ago the availability of good extension material is a remarkable change and success. (Schmidt: 2009)

LEAP's **group approach** has left sustainable effects within the country RAS system: The idea of the participatory, group-based RAS approach has been taken up by government and NGOs as principles in RAS and is now known from national to village level. Through the establishment of groups, extension – if offered – reaches out to a greater number of farmers. (LEAP: 2012)

The **use of mass media, sms services and internet** for information exchange and delivery, and in particular the creation of the LaoFab is a sustainable and considerable contribution to the country RAS and knowledge system.

Last but not least, LEAP never paid farmers to attend trainings and thus fostered the idea of demand-based services from which actually farmers and not government officials should benefit most. However, it was observed that in some cases LEAP has partnered with other projects so that LEAP can provide the training and the other projects provide inputs for free to the same group of farmers (MTR: 2010).

These institutional achievements relied not least on the project's staff and donor: A high level Party member in the project management position combined with flexibility and long term planning of funds have considerably strengthened the project's ability to continuously challenge the set borders and to make greatest influence possible. (Peter: 2014)

Limitations of the contributions

Beside the named achievements of the programme, LEAP's systemic long-term effect is also constrained. The limitation mainly lies in the fact that other donors enter the system with other specific extension programmes. Government's rational optimisation of finances logically leads to further acquisition of donor money for extension, as long as such is available. Thus, it depends on donor's conditions to support extension, in what way the extension offices of the GoL will provide extension in future. Yet, future donor funding is also a major chance for the sustainable implementation of LEA. If donors leave it up to the GoL how to implement extension, or even specifically foster LEA, there is a great chance that the extension offices will continuously use LEA as basic extension approach. Hence, future has to proof whether and how LEA will be implemented. (Bartlett: 2014, Schmidt: 2015)

Out of the proposed extension methodologies, the NAFES, PAFOs and DAFOs chose whatever fitted best also to the Communist Party's objectives: The formation of groups and the standardisation of extension material were successful as they went in line with the objective to gain greater control; whereas the training cascade or the demand-orientation of services turned out challenging to become really sustainable. Further, the ultimate goal of the GoL and LEAP was the same - poverty reduction and economic growth, but the theory of change

was different: Whereas the GoL believed to reach this through the supply of free inputs, LEAP believed this happens through capacity building. That is why, LEA is expected to be combined again with input provision programmes. (Munankami: 2014b, Schmidt: 2015).

The village extension system failed to become the implementing unit for extension, although this was officially planned at national level. This can be explained by the following facts:

- The motivation of farmers to join a PG is limited, because farmers expect from PGs to get training and at least have easier access to free/subsidised inputs (piglets, fodder grass seeds, veterinary medicines) or credit from the village development fund or a governmental bank. LEAP did not support such subsidies or incentives for PGs.
- LEAP had no project component to empower the village based PGs to articulate their demand, since it exclusively worked through government agencies.
- There was no real political will to strengthen the village extension system.
- Village extension workers were not expected to receive a remuneration.

Another limitation is seen in the fact that four restructuring processes took place in the course of the project. Frequent staff turnover and changes in the way extension had to be delivered constrained the system's continuity and thus the project's effectiveness.

5. Effectiveness, inclusiveness, and sustainability of the RAS system

This chapter analyses the effectiveness of the RAS system. It first focuses on effects on income and food security of farmers, and then looks at the system's inclusiveness regarding to gender and ethnic minorities.

5.1. Economic effects and food security

In many instances, farmers involved in PGs stated to have doubled their rice yield and livestock number has increased by 40-50% thanks to decreasing mortality and morbidity rates. Alton et al. (2008) analysed the effects on production costs, income and net benefit of LEA trainings that were either provided by the DAFOs with support of LEAP, or by the village extension workers (VEW) without LEAP support. Alton et al. (2008) showed that for both, chicken and rice production, farmers have considerably increased their net benefits through extension. The following charts show the evolution of the benefits from a sample of 500 households, from which most were better off farmers, situated in best cases pilot villages.

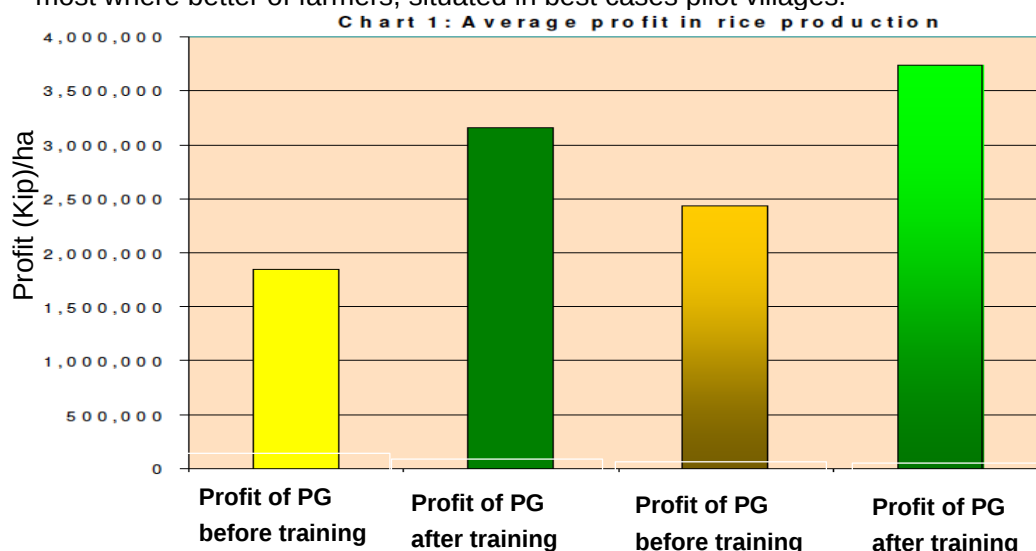


Figure 35: Average profit in rice production before and after training of DAFO and VES. Sample includes approx. 500 households in 9 villages that show best cases of LEA implementation. (Alton et al.: 2008)

Regarding rice production, the access of quality seeds and fertilisers plays a key role to improve farmers' profit. The chart shows that the farmer benefitted from such improved rice varieties, no matter whether DAFOs or VEWs provided extension services.

However, many farmers faced problems with increased pests by applying more fertiliser and were thus reluctant to use them. New rice techniques also required more labour force e.g. for levelling the nursery plots. Such techniques were only partly adopted.

Another limitation lies in the fact, that in some remote villages, labour migration is rife and access to paddy land is limited. The increase of profit was thus not everywhere as in the above shown sample.

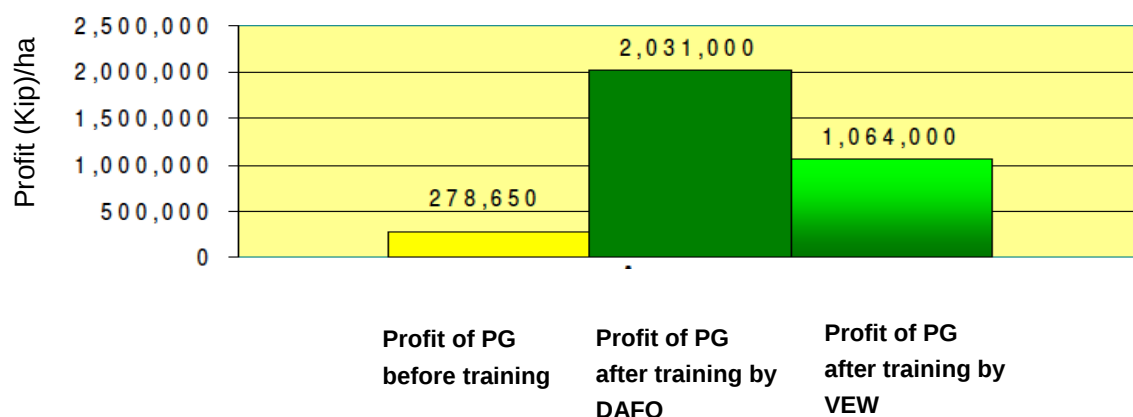


Figure 36: Average profit in chicken production before and after training of DAFO and VES. Sample includes approx. 500 households in 9 villages showing best cases of LEA implementation (Alton et al.: 2008).

The chart shows, that the sampled farmers could increase their net benefits from chicken production through extension services. The change is explained with a significant decrease in chicken mortality: Without extension, chicken mortality rate was 50-60%; with extension and vaccination services, chicken mortality rate was 20-50%.

Two facts limit the benefits of chicken production:

- Women and girls, who are mainly responsible for chicken production, reported that they could not further expand the number chicken as for their limited labour time.
- Some farmers reported shortage of foodstuff to feed the greater number of chickens, resulting from lower mortality.

The chart shows a greater increase in benefits when extension was provided by DAFOs, instead of VEWs.

In chicken production, follow-up training and tight technical guidance is crucial for the success. The smaller benefit of extension by VEWs in chicken production might thus be a sign of the above-mentioned weak functioning of the VES.

For the benefit of rice production, the provision of quality inputs and not primarily extension services play a key role. That is why the services of VEWs and DAFOs resulted in the same increase of profit.

Beside the impact assessment of Alton et al. (2008) on chicken and rice production, there is little assessment of the impact on farm level. Regrettably the impact assessment was done on a household basis and did not use gender and ethnicity disaggregated data.

Effects on food security

LEAP based its intervention on the assumption that an improved extension system leads to increased yields and income, and that additional income will be used for food. The impact on yields and income is weakly monitored, in particular regarding to poor households and women that are most likely to face food insecurity. The use of the benefits rising from increased production and income was also not monitored, which makes it impossible to realistically indicate the impact on food security.

5.2. Inclusiveness of the RAS system

Anecdotal evidence shows that some farmers greatly benefitted from LEA implementation, while others did not face such benefits. This chapter discusses first how far LEAP has contributed to the public RAS system's inclusiveness.

Village selection

LEAP selected pilot villages (approx. 500) for the LEA implementation in an inclusive way (Piecotta: 2010): many of the pilot villages have a high share of ethnic minorities, which are also represented in the production groups.

Since LEA has the vision of “extension for everyone”, LEAP aimed at up-scaling extension to every Lao village. Therefore, LEAP expected the VEWs to provide extension services in the remaining villages. Alton et al. (2008) showed that the farmers in pilot villages benefitted more than those in the so-called extended villages, where the VEWs provided extension. Nevertheless, with its effort to scale up extension to every village, LEAP contributed to anchoring the idea of “public extension to every village” in the government system. How far this idea has been taken up by the GoL will be visible only when further donor support to extension will be phased out and the GoL will fully come up for the public extension services. Up to then, it will be a joint decision of donors and the GoL, where public extension will be offered.

Social Inclusiveness	5 Hotspots
No of villages	43
No of better off villages	7
% of poor villages (numbers)	(40%) 17
No of group members	827
% of poor members (numbers)	48% (396)
No of women members in group	341
% of women members	41%
% Lao-Tai	47%
% Mon-Khmer	26%
% Hmong-Mien	19%
% Sino-Tibet	9%

Figure 37: Poverty Status of LEA + hotspot villages and inclusiveness of farmer groups (LEAP: 2013).

Learning: LEA promoted the idea of “extension for everyone” and thus strongly emphasized on the RAS system’s capacity to reach out to remote villages.

Formation of production groups (PG)

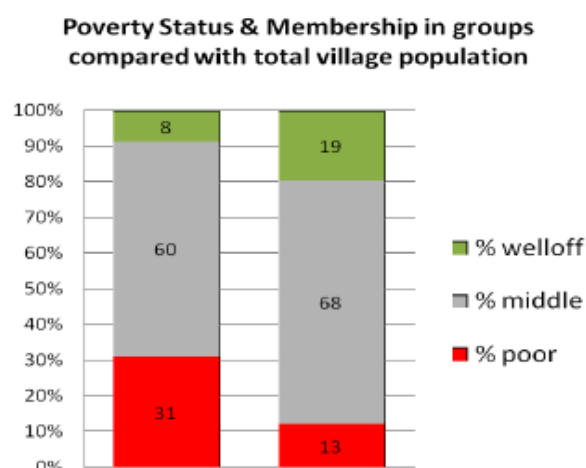


Figure 38: Representation of poor farmers in PGs in 2010 (Piecotta: 2010).

LEA proposes a participatory and problem-solving approach and foresees that men and women are assisted alike by the extension service.

In each of the pilot villages, one PG of 10 households has been formed by local authorities. The review team (LEAP: 2007) states, these local authorities, have favoured better off male farmers to participate in PGs. They thus excluded women to some extent and potentially increased the gap between better off and poor farmers. Accordingly, Piecotta (2010) states that in PGs poor farmers are underrepresented, middle-income farmers are slightly overrepresented, and well-off farmers are clearly overrepresented.

The picture looks different if looking at the inclusion of ethnic minorities: Over 70% of direct farmers in pilot groups were from ethnic minority groups. Nonetheless, the extension system does not offer equal services to all target groups (LEAP: 2012): An important factor to participate in PGs is

knowledge of Lao or Thai language. Women and ethnic minorities speak less Lao than men of ethnic majorities. Hence, these groups are potentially excluded from participating in PGs (Piecotta: 2010).

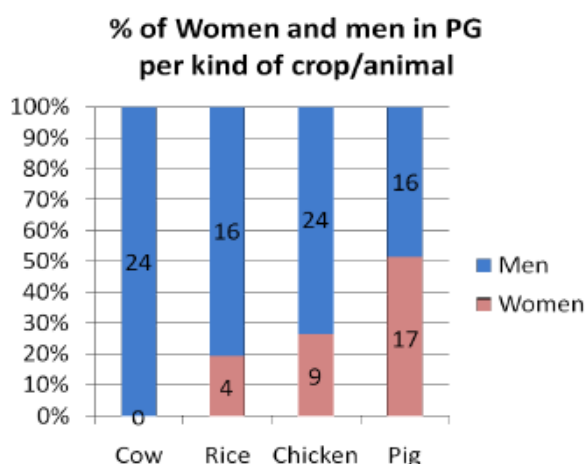


Figure 39: Representation of women in diverse production groups (Piecotta: 2010).

Women participation in PGs lies between 0-50%, with significant differences between the various production lines:

- The share of women is highest for pig PGs (50%).
- For rice and chicken women participation is 24%, although women are main keepers of chicken.
- In cow PGs no single women participated.

Piecotta (2010) states that those women who were members of PGs indeed attended the trainings.

In many villages the original PGs sustained and no new groups have been formed. The original selection of PG members influences thus the RAS system's inclusiveness up to date. How PGs will be formed in future will probably depend on the expectations of those who finance RAS, may it be the GoL or other donors.

5.3. Sustainability of the RAS system

The following contributions of LEAP are considered to have had a sustainable effect on the public RAS system.

- 1.) The LEA is institutionalised and is recognised as a major extension strategy of the public extension system. It will be applied as soon / as long as finances for public extension will be available (Bartlett: 2014)
- 2.) The published materials on participatory, gender sensitive, demand-driven and decentralised extension methodologies are available for extension workers in most of the provincial and district extension offices. The exchange network LaoFAB will support further sharing of materials and updated news.
- 3.) The so-called "Wisdom Bags" include a number of training modules on diverse agricultural subjects and are ready to be applied for agricultural extension. They are available in most extension offices.
- 4.) Several hundred government extension staffs at all administrative levels were trained to offer extension according to LEA. The MTR team (2010) states that "although these persons have learnt a lot from LEAP, their capacity to apply this learning is largely reliant on continued flow of funding from LEAP since they would need to shift attention to 'the next project' when these funding flows were eventually discontinued." (GDR: 2010).

The public RAS provision itself still mainly relies on donor support. This, however, does not mean that the GoL is not ready to pay for it, but much more that donors are interested to financially contribute to the public RAS system. As long as donor finance is available, the public RAS system will exist. However, it will rather reflect a mosaic of diverse RAS approaches and initiatives than **one** public extension system. With increasing civil society and private sector actors entering the country RAS system, this is expected to become a more and more pluralistic system with new services and source of finances coming in, while others are phased out. Thus the public RAS system will become part of a greater system and probably also has to find a new role.

6. Conclusions: Learnings and innovations from LEAP on how to reach large numbers of farmers with RAS

The Lao Extension Approach

The major innovation of LEAP is considered the Lea Extension Approach, its piloting through the project and its institutionalisation and nation-wide implementation. Instead of focusing on extension content, LEA comprehensively described methodologies to deliver extension in a participatory and need-based manner. That is why LEA can be applied for a range of contents in diverse regions. LEAP combined LEA with a country wide training of extension staff, thus anchored LEA not only in policies but also in the thinking of extension workers, which fostered identification with LEA. This may suggest that LEA methodologies will be applied also after the phasing out of the project.

Decentralised fund flows

LEAP recognised the correlation between fund flows and decision power. By funding the province and district extension offices directly and not through the MAF or NAFES, it contributed to decentralised decision power. This enhanced the system capacities to react flexibly to the diverse RAS requirements of farmers in different districts.

Capacity building cascade and internships

The capacity building cascade was a new idea in Laos and filled the lack of an internal training centre for extension workers. Although such cascade was not institutionalised sustainably, LEAP effectively trained through the cascade some hundred public extension workers. These workers are employed within the extension system and ready to apply LEA as soon there is a request. One may also consider that trainings on methodology is not necessarily a continuous activity but possibly rather a one-off contribution to the extension system. In such light, the training cascade is a great tool to effectively train a broad range of extension workers.

Additionally to the capacity building cascade, LEAP offered internships to students to do field research and get to know extension methodologies. This is an innovative project approach to train future extension workers, while having a direct influence on an inclusive selection of interns.

Establishing of producer groups

Nowadays, the formation of PGs is not anymore considered an innovation in agricultural extension. However, in Laos LEAP's formation of PGs could change the paradigm of how extension is provided: From a model farm extension approach to group based, participatory extension.

The experiences of LEAP also highlight the importance of who selects PG members and which criteria are applied. In Laos, the original PGs sustained for many years and often no new PGs were formed. It was thus crucial to form the PGs from the beginning in an inclusive manner. This was very successful regarding to ethnic minorities, and thus fosters the system's long-term inclusiveness for ethnic minorities. Since local authorities selected the PG members, they gave preference to better-off farmers and not to the poor – also a factor that now characterises the kind of farmers included in the extension system.

Reacting in a spontaneous and opportunistic manner

Many of LEAP's activities were successful because LEAP was able to spontaneously make use of opportunities and though go beyond the scope of the existing comprehension of agricultural extension. This was only possible because LEAP had a flexible donor allowing for spontaneous decisions, combined with a long-term project perspective.

Fostering exchange between extension actors

In Laos, access to knowledge and information was considerably limited, which created a great demand for knowledge sharing. LEAP reacted to this with the creation of the e-platform and library "LaoFab" that provided an opportunity for everybody to share and access agricultural information. Such innovation makes only sense, where a broad population considers information and access to it as a limiting factor for their professional and personal activities. In Laos, LEAP run up against a great demand for such information exchange.

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Stefanie Kaegi 05.05.2015

CAPEX Study 5: Capitalisation of Experiences of the Kyrgyz Swiss Agricultural Project (KSAP); Kyrgyzstan: 1995 – 2010

A study to capitalise experiences in SDC financed rural advisory services programmes in Asian countries



Schweizerische Eidgenossenschaft
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Summary

This study capitalises the experiences of the Kyrgyz Swiss Agricultural Project (KSAP) with the goal to derive learning from the project's successes and challenges. The study offers an overview rural advisory service (RAS) system before, during and after the project intervention and analyses in what way KSAP contributed to the current country RAS system. The bilateral project was funded by the Swiss Agency for Development and Cooperation (SDC) with 20 million CHF (respectively CHF 25 CHF / year and farmer provided with RAS) and implemented by HELVETAS Swiss Intercooperation from 1995 to 2010.

Major achievements of KSAP

- 50'000 households were provided regularly with RAS during 16 years; most of the farmers live in remote areas; 60% are women.
- RAS users significantly increased productivity and income. Productivity gains of RAS clients is significantly higher than of non-clients in the same period.
- 350 extensionists were trained on participatory extension methods and available for the RAS system in the long run. This is one extension worker for 2'600 persons living in the rural area; 30% are women thank to women quota.
- A network and coordinating unit of RAS provider has been established throughout the country. These RAS entities are today employed by private agencies, government or development projects.

Derived learning

Capacity Building

- The availability of a critical mass of capable and available RAS providers, as well as a coordinating entity is crucial to attract private and public sector, or other donors to employ the RAS service providers. Development project can best support this with capacity building of RAS providers.
- If capacity building should be available in the long run, the project should strive to institutionalise capacity building as an integral part of the RAS system.
- Investments into capacity building of RAS providers and its institutionalisation require a long-term perspective. Short term project interventions often neglect such capacity building.

Finances

- The accumulation of money by RAS actors led to the procurement of office locations. Having a house, strengthens the RAS actors' flexibility to mitigate the risks of fluctuating finances/mandates.
- Demand-side financing functioned impressively well on paper, however in the field there was no much improvement observed.
- With the direction of fund flows, projects have an important mean to create ownership and decision making power. Fund flows should thus be used purposefully and effectively.
- KSAP several times successfully adapted the approaches and RAS design to changing circumstances. This is only possibly with a flexible donor and a long term project perspective.

Others

- By doing policy dialogue as a project, the capacities of RAS actors are not strengthened enough to continue policy influencing activities after the phasing out of the project. RAS stakeholders themselves should gain the capacities to participate in policy dialogue.
- Using existing (government) structures is crucial to institutionalise RAS processes. Parallel structures, established by projects are likely to lose their reason to exist after the phasing out of a project.

Major challenges

- As long as funds from other donors are available in the RAS system, there is little chance that the Government will spend rare taxpayers' money on RAS.
- Farmers' participation in decision making processes is influenced by the cultural background. Attitudes regarding participation are hardly changed, although the RAS design aims at such change.

Acknowledgement

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Abbreviations

CB	Capacity Building
CHF	Swiss Franc
DfID	Department for International Development
IDA	International Development Association
GIZ	Deutsche Gesellschaft für Internationale Zusammenarbeit
GoK	Government of the Kyrgyz Republic
KGS	Kyrgyz Som
KR	Kyrgyz Republic
KSAP	Kyrgyz Swiss Agricultural Project
MAWR	Ministry of Agriculture and Water Resources
RADS	Rural Advisory Development Services
RAS	Rural Advisory Services
ROI	Return on Investment
SDC	Swiss Agency for Development and Cooperation
TES	Technical Extension Services
ZOKI	Training Advisory and Information Centre

1 Introduction

1.1 Context of the KSAP intervention

After the collapse of the Soviet Union in 1991, in the Kyrgyz Republic (KR) large collective farms were converted into numerous small family farms (Helvetas: 2012). Since then the farm size of 80% of the private farms is smaller than two hectares (IFPRI: 2009). People, who previously had been tractor drivers, teachers, accountants or yardmen in collective farms, now had to survive on their own production. Because of the breakdown of the kolkhoz intern services of specialists, farmers had nowhere anymore to turn to with questions regarding to agricultural production. Furthermore, the former public input supply and market chains broke down. As a result, agricultural productivity rapidly decreased in the first half of the 1990s, with a parallel increase in poverty. Against this backdrop, the Swiss Agency for Development and Cooperation (SDC) mandated Helvetas in 1994 to initiate the establishment of Rural Advisory Services (RAS) in the Oblast (province) of Naryn, a mountainous and remote region of the KR.

In 1999, this RAS was expanded to all regions of the country in partnership with the World Bank, SDC, and the Government of the KR. (Cited from Helvetas: 2012)

Starting with a fact-finding mission in 1993, the support to the Kyrgyz RAS system through the Kyrgyz Swiss Agricultural Project (KSAP) evolved over 17 years, respectively seven phases. SDC funded the project with a total investment of over 20 million Swiss Francs, while Helvetas implemented it. (Helvetas: 2012)

1.2 Relevance of the intervention

In 1994, when SDC mandated Helvetas to initiate the establishment of a local RAS system in the Naryn Oblast, agricultural extension was either non-existent or dysfunctional in the KR. The Ministry of Agriculture, Water Resources and Processing Industries (MAWPRI, at this time still called MAWR) and its Oblast representatives still issued agricultural production plans as in the soviet manner, whereas at rayon (district) and Ail Okrug (village) level, no public extension officers were available to support agricultural production according to the plans. Neither any private nor civil society RAS actors were in place. A local government system was basically inexistent. In the power vacuum after the collapse of the Soviet Union it were the traditional councils of elders (Aksakal or the “white bearded”) who provided legal and political guidance to their community members.

While some veterinarian from the former collective farm system still occasionally offered individual services, the state seed production and technical services – units providing tractors and implements for agricultural production - were strongly hit by the collapse of the soviet system, and so to speak inexistent.

In view of a farming community that lacked experience as individual farmers on the one hand and the absence of a functional public or private extension system on the other hand, the Government of Kyrgyzstan (GoK) and international donors considered the idea of establishing a new, countrywide RAS system as highly relevant.

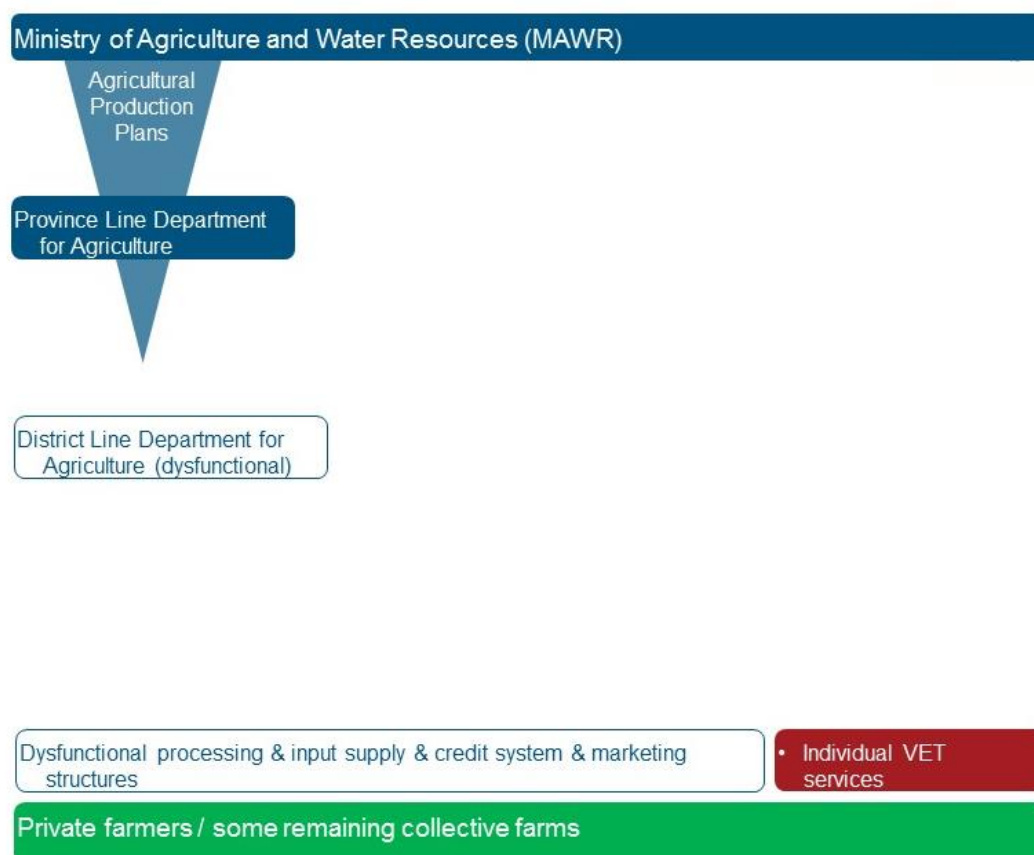


Figure 40: Actors in the rural advisory services system before the launch of KSAP (author's own figure, based on Schmidt: 2015)

2 The contributions of KSAP to the RAS system

In 17 years, KSAP used diverse approaches to RAS, and continuously strived to improve the country RAS system while reacting to changing circumstances. This chapter describes how KSAP contributed to the current Kyrgyz RAS system. It focuses on contributions to the RAS design, to capacity building, to extension contents and methods, to extension policies, as well as contributions in form of finances, and derives a range of learnings.

2.1 Contributions to the design of the RAS system before 1999

In 1994, Helvetas opened an office in Kochkor village in Naryn Oblast. From there it initiated the establishment of a local RAS system consisting of a couple of rayon (district) extension teams, each consisting of four male and one female expert. Caritas (supported by SDC), did the same in Jalalabad Oblast, while Intercooperation (supported by SDC) established a milk processing company including extension services in a third Oblast called Issyk Kul.

In 1999, the RAS system in the three Oblasts was as depicted in the following figure. The three RAS interventions operated independently from each other and exchanged for learning. The interventions were not formally integrated into a government system (since it was largely dysfunctional) but aligned to central government's priorities and policies as far as they existed.

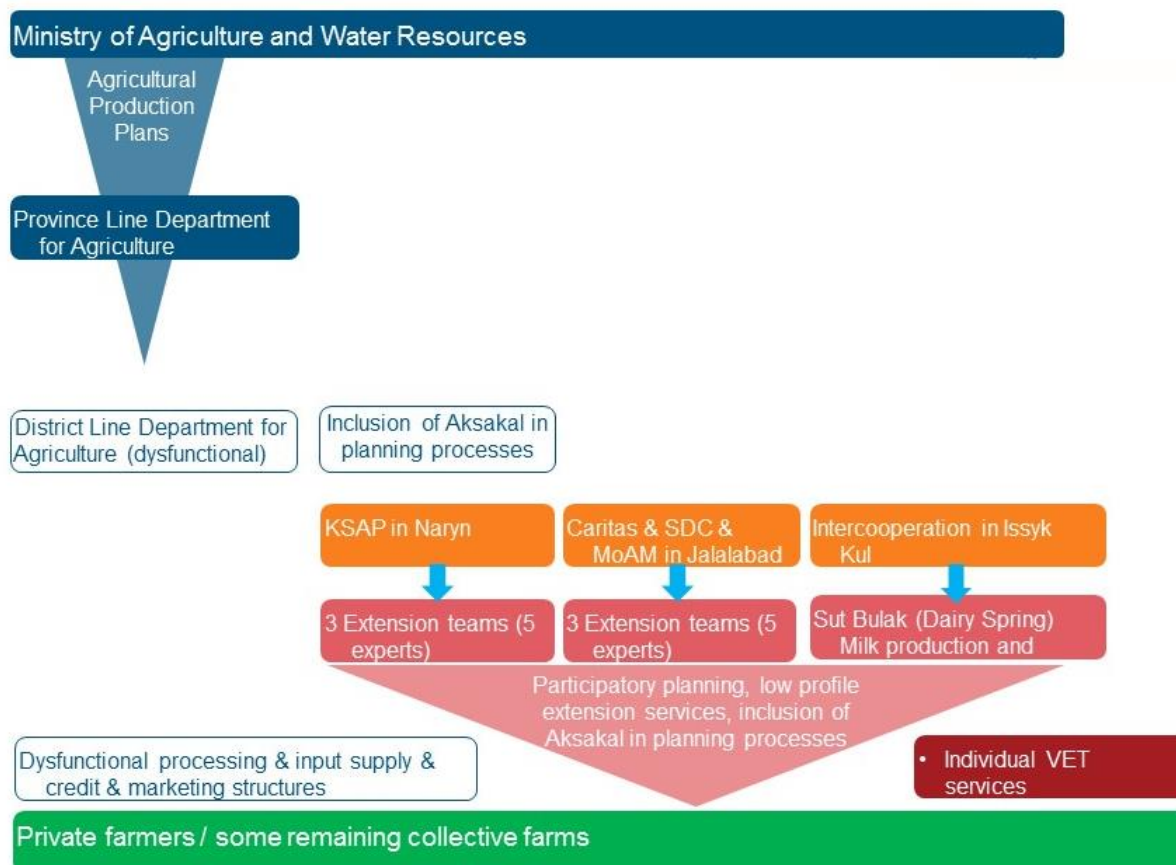


Figure 41 Country RAS system in 1999: blue = government institutions // orange = project institutions // green = farmers (author's own figure based on Schmidt 2015).

2.2 Contributions to the design of the RAS system from 1999-2007

In the mid-nineties the GoK and several donors started to invest into a RAS system. Besides the government, key actors were a European funded project, the Worldbank respectively its International Development Association (IDA), which administered a loan of the International Fund for Agricultural Development (IFAD), and the SDC. The shared idea was to work towards a country-wide RAS system. However, the vision of the role of different actors varied widely. The negotiation process eventually resulted in a system that largely built on the European Union and SDC funded pilots. The system – called Rural Advisory Development Services (RADS) was encompassed the following main actors:

The Ministry of Agriculture and Water Resources (MAWR) was the contractual partner of the bilateral donors and responsible for the management of the soft-loan from IFAD. But the MAWR and its representatives on Oblast level were not directly involved into RAS delivery. While the World Bank routed the IFAD loan through the MAWR to the RAS system, SDC routed its grant via Helvetas directly to the Oblast RAS.

National Steering Council: The chairmen of the six Oblast RADS, a Vice-Minister of the MAWR and donor representatives together formed the governing body of RADS. It discussed and approved policies, annual plans and budgets of RADS.

The RADS Secretariat was responsible for RAS planning and coordination. It was staffed by a General Manager, few Subject Matter Specialists and administrative personnel.

Oblast Steering Council: RADS was set-up as a member-based organisation. The RAS clients, the farmers, were supposed to become member of RADS, to pay a nominal membership fee and in turn to profit from preferable conditions for delivered services. The members would elect Rayon representatives who in turn delegate their chairman into the Oblast Steering Council. These farmer representatives together with a staff of the MAWR on Oblast level and a donor representative were to discuss annual plans, budgets and reports of the Oblast RADS.

The six Oblast RADS consisted each of one Regional Manager, five subject matter specialists (among them at least one women), and administrative staff. The function of the Regional Manager was to coordinate the activities of the Oblast RAS while the Subject Matter Specialists supported and trained the district-level advisors. Following the Helvetas pilot in Kochkor there was in each Rayon (district) a team of five generalist advisers (among them at least one women), who directly or through lead farmers advised farmers. Each oblast RAS was received support from a full-time International Advisor, who built capacities of the manager and the subject matter specialists on the job.

In this country-wide system half of the Oblast RADS were funded by the GoK through the IFAD loan, the other half received grant money from SDC and the support from an International Advisor each. DfID financed three additional International Experts for the Oblast RADS that relied on the IFAD loan funding. Clients paid from the beginning a nominal fee for the services they received. Except the mentioned dairy in Issyk Kul there were hardly any private sector companies in rural areas and if at all they were not involved in RAS.

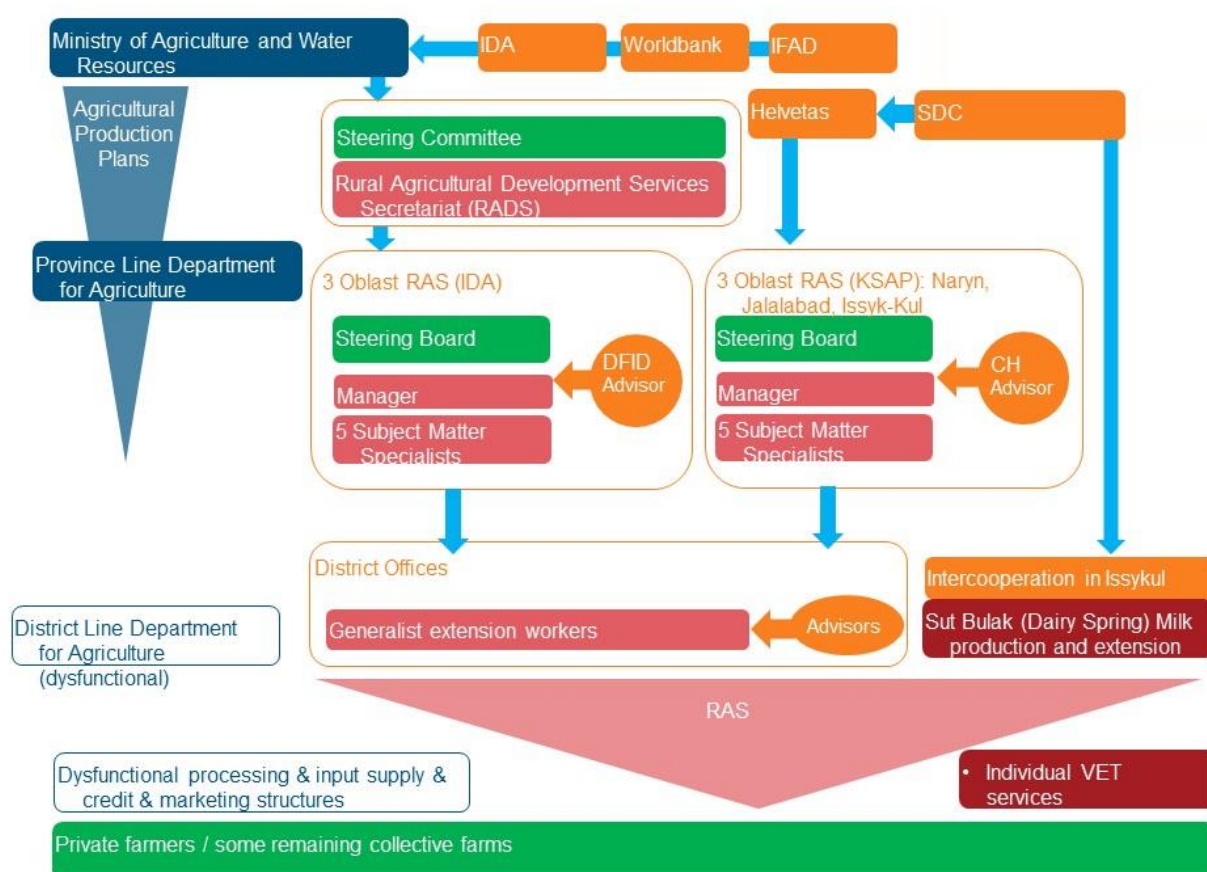


Figure 42: The country wide RAS system how it was planned by the MoA, Worldbank, and Helvetas in 1999. Government agencies-blue; project supported/established institutions – orange; farmers and farmer representation-green; fundflows-turquoise. (Author's own figure, based on Schmidt: 2015).

By establishing such a RADS system, KSAP faced various challenges from which one can derive the following learnings.

- ❖ Since the GoK at times failed to fully comply with the IDA's requirements related to the management of the IFAD loan, the fund flow from IDA was repeatedly interrupted, whereas the funds of SDC were available as planned. As result, the Oblast RADS supported by Helvetas had continuous funds and developed well, whereas the Oblast RADS supported by IDA sometimes lacked of funds and had to stop service delivery to their clients. This put the reputation of the entire system at risk. The concerned Oblast RADS reacted on the absence of finances by asking Helvetas to support them, too. In 2001 the GoK and donors agreed to abandon the differentiation between Oblast RADS supported by IDA and such supported by Helvetas. A more flexible funding mechanism allowed to assure a stable financing of the Oblast RADS and with that a continuous delivery of RAS to farmers.

Learning: Diverse sources of funding result in diverse amounts and timing of funds. This requires flexibility of RAS actors to react on changing availability of funds. This is most important in a pluralistic system, and concerns both, providers and "payers" of RAS.
- ❖ While IDA delivered its fund via the MAWR and the central RADS Secretariat, SDC via Helvetas directly supported the newly established Oblast RADS. The underlying reason for the different funding were differing visions on the ownership of the RADS system, namely a centrally steered and government owned system (GoK, World Bank) versus a decentrally managed and farmer owned system (SDC, Helvetas). SDC contributed to capacity building of the RADS Secretariat (through an additional International Advisor) and strengthened MAWR's capacity to formulate policies and to manage donor money through a "Policy Support Unit" located within the MAWR. But the Swiss missed to rout – at least part of – their grant through the government's channels and to build in this way both capacities and ownership within the government administration for the RADS system.

Learning: With the direction of fund flows, projects have a means to create ownership and decision making power.
- ❖ Helvetas put great efforts into a farmer-driven steering of the whole RADS system. Farmers hold the majorities in the national and province steering councils of the RAS system. However, against the backdrop of the Soviet history of the country, such inclusion of farmers into provincial and national planning processes remained a somewhat theoretic idea. The country and its citizens were not ready for idealistic Swiss basis-democracy.

Learning: Farmers' participation in decision making processes is influenced by the cultural background and can't be created from one day to the other by a RAS project or a specific RAS design.
- ❖ The donors invested heavily into on the job capacity building of key staff of the RADS system. They financed up to eight international advisors at one time to support and build capacities of each Oblast RADS and the central RADS Secretariat. Further, KSAP supported management trainings for the RADS managers, and arranged an array of thematic trainings for the subject matter specialists and generalists at Oblast and Rayon level. On the one hand, the employed advisors and capacity building activities effectively built the capacities of the RADS team. In total about 350 extension workers have been trained that way. On the other hand, the capacity building was at that time not institutionalised in the system, which gave ground to the idea to create an in-house capacity building institution in a next phase.

Learning: If capacity building should be available in the long run, the project should from the beginning strive to institutionalise capacity building as an integral part of the RAS system.
- ❖ Funding of the RADS system was input-based. This means the donors financed RADS staff and their activities. Soon the decision makers realised low efficiency in RAS delivery. Except the membership system, the farmer-led councils and the payment of nominal fees the system did not foresee much to turn accountability of service providers towards farmers. Payment was based on the activities and not on the results achieved. This led to a radical shift towards an output based payment system (see below).

Learning: Efficiency of RAS was limited by two issues: low accountability towards farmers and activity based instead of result based payment system.

- ❖ In 1997, the Gesellschaft für Internationale Zusammenarbeit (GIZ) initiated in the South of Kyrgyzstan the Training and Extension System (TES), an NGO with a training centre providing RAS, too. KSAP sceptically observed such additional RAS activity beside the country RADS system. However, retrospectively, KSAP recognised that it makes sense to support several parallel RAS initiatives. The situation not only created for the first time a certain competition among the service providers but also offered a higher potential to learning and exchange.

*Learning: The idea of a **unique** country RAS approach doesn't reflect reality, where various RAS requirements and sources of finances meet. Further, learning is highest, when several RAS initiatives are operative in parallel.*

2.3 Restructuring of RAS in 2001 and 2007

In 2001 the RAS system underwent a first substantial reorganisation and key staff – e.g. the General Manager – were dismissed.

The RADS Secretariat was dissolved, the Oblast RADS were renamed and legally re-registered as new “Rural Advisory Services”. The governance, management, staffing and functions of the new Oblast RAS basically remained unchanged.

The **Rural Advisory Service Coordination** (RASCO) was founded as the national coordination (but not any longer management) unit of RAS, responsible for planning, routing funds (both from IDA and SDC/Helvetas) and coordination of the system. It was staffed with a local coordinator and an international project advisor.

The **Training, Advisory and Innovation Centre, the ZOKI** was created. RASCO and ZOKI were legally independent units but located in the same newly bought building in the capital. The role of ZOKI was to serve as a resource centre, to act as a methodology and training site for RAS staff throughout the country and to develop extension material such as publications, posters, videos etc. A Kyrgyz director led a couple of subject matter specialists. An international advisor supported these master trainers in their function to offer training and advice to the extension staff in the entire country. The **RAS Manager Conference** (consisting of the six Oblast RAS Managers) was created as the governing body of ZOKI.

Also in 2001, KSAP introduced a **result based payments** for the Oblast RAS, called the “mandate system” with the following key features:

- Objective indicators such as population, area, remoteness etc. were identified to calculate the ceiling of the annually available donor funds (basket funding including grants and the IFAD soft-loan) per Oblast RAS.
- Oblast RAS were invited to prepare an offer with quantified services (outputs, e.g. number of consultations, number of training days, number of participatory innovation processes, number of new extension methods) for the next calendar year. The government or donors could prescribe certain inputs (e.g. specific actions related to ecological sustainability such as tree planting campaigns). To guarantee a certain flexibility a share of the planned services remained unallocated.
- RASCO and KSAP negotiated with the Oblast RAS the service catalogue including the price-tags for various services. This resulted in an agreed “mandate” (or the annual plan with quantified services and indicators), which remained within the financial ceiling of the budget allocation per Oblast RAS.
- The Oblast RAS offered the services.
- Independent evaluators monitored the agreed indicators. For this, randomly selected clients were visited to assess whether a service had been delivered and to learn about the client's satisfaction.
- The degree of the target fulfilment was calculated (based on the random sample) and payments of the services (= outputs) were made according to the agreed price-tag. Overachievements of the targets up to 120% was possible and rewarded. It allowed the Oblast RAS to accumulate savings as future working capital and for investments¹³.

Learning: The accumulation of savings by the Oblast RAS led to the purchase of real estate for offices. This again fostered the sustainability of the RAS– up to now.

¹³ The output based payment system is documented in the brochure: „You pay for what you get. From Budget Financing to Result Based Payments“, Helvetas 2005. http://assets.helvetas.org/downloads/you_pay_for_what_you_get_publ_4_1.pdf

With the introduction of this result based payment mechanism, efficiency of RAS delivery increased by about factor four. Self-financing of the Oblast RAS (which was one of the measured and rewarded indicator) grew to about 7%. However, reality and what was shown in the books often differed and the activities in the field didn't improve the same way, which puts a shade on this impressive efficiency increase.

Figure 43: The country wide RAS system after the introduction of the result-based payment system and the membership system. Government agencies= blue; project supported/established institutions = orange; farmers and farmer representation = green; private sector = dark red; fund flows = turquoise. (Author's own figure, based on Schmidt: 2015).

1. A lack of accountability of the Oblast RAS to farmers. Based on prior studies the evaluation concluded that farmers did not see much benefit in being member of RAS. Elected board members did not feel accountable to their constituency.
2. The Oblast RAS had found ways to pervert the output based payment system. Efficiency had become low again, the established external monitoring system failed to prevent cheating.
3. The reached coverage was considered insufficient. (Schmidt: 2012)

As a consequence, the membership system and the output based payment system were abandoned and a **demand-side financing** introduced. Therefore, so-called “Koshuuns” were established. These are local institutions on village level with the purpose to define farmers’ needs for trainings and to “buy” the required advisory services from the Oblast RAS with project funds. Donor funds were allocated to the Koshuuns with a plan to phase them progressively out in a period of three years. The assumption was the decreasing donor funding would be compensated by fees paid by the farmers themselves. Although the new local Self Governance Act of 2007 would have provided the basis to use the village administration of the Ail Okrugs as democratically legitimised body to fulfil the functions of the Koshuuns, the latter were set up as parallel structures.

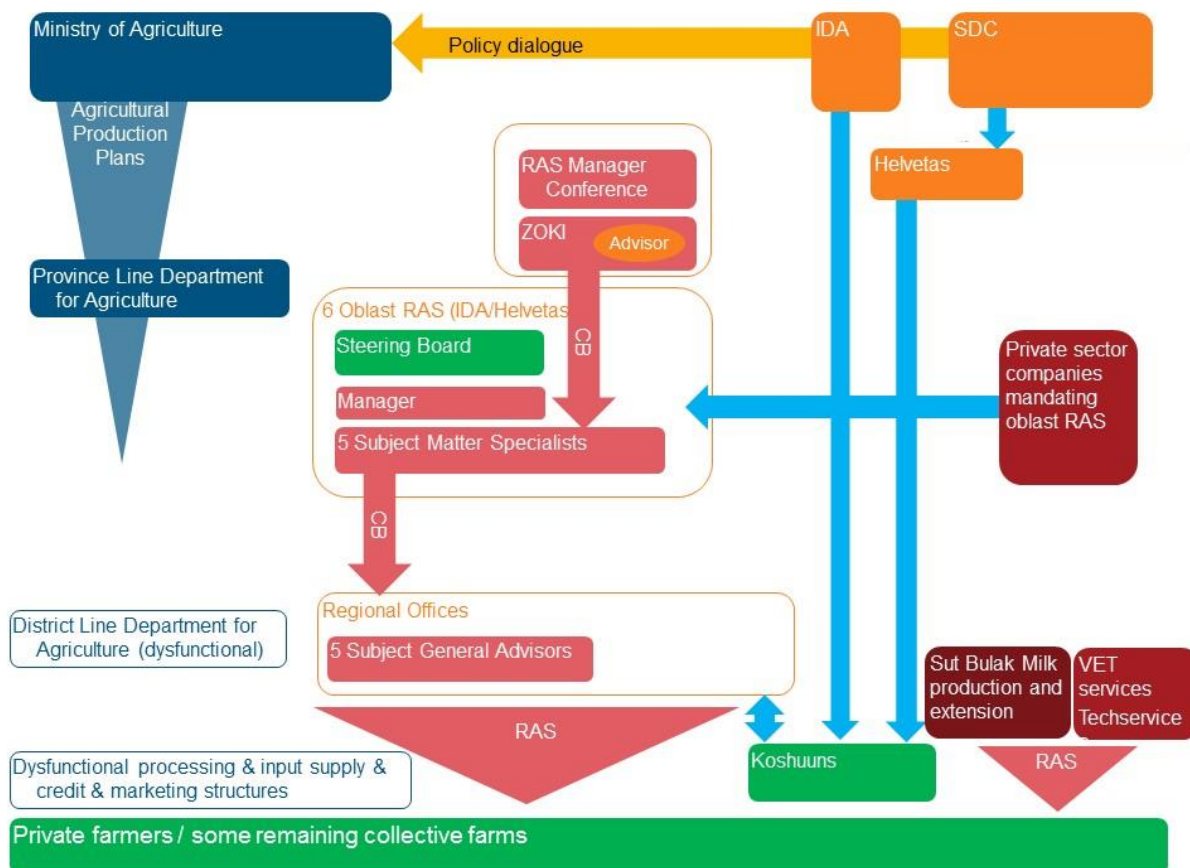


Figure 44: Restructured RAS system. 2007-2010. Green = farmers and farmer groups; orange = project institutions, red = project based institutions expected to sustain without project funds; blue = government institutions; dark red = private sector; turquoise = fund flows. (Author's own figure)

The country-wide roll-out of the Koshuuns happened in 2009 only. Swiss funding ceased in 2010. Interviews with knowledge bearers two years after closure of KSAP reflected a highly critical picture: "Only 10% of the 458 Koshuuns are expected to survive. Fee payments by the farmers for advisory services are lower today as compared to the period before the Koshuuns were created. To survive, the service providers have turned their attention to 'hunting' for donor funding rather than focussing on their original mandate of responding to farmers' needs." (Schmidt: 2012).

While supporting the development of this RAS system, the following evolutions took place. They again offer various learnings.

- ❖ Other donors showed a growing interest to work with the Oblast RAS and started to employ them directly, mostly on the basis of short term contracts. This also led to a diversification of RAS services (e.g. including support to Community Based Tourism).
- ❖ The private sector developed. Input suppliers, processors and traders hired the Oblast RAS for their businesses.
- ❖ The Central Asia Breeding Services established their own veterinary network and acted as competitors to the Oblast RAS.

Learning: As long as funds from donors are available in the RAS system, there is little chance that the Government will spend rare taxpayers' money on RAS.

Learning: Private sector actors contracted the RAS providers only because they already had capacities to provide quality services. The capacity building efforts of the projects were thus a significant contribution to the later pluralism of the system.

- ❖ Private consulting companies – at times offsprings created by former RAS staff – emerged. Competition among RAS providers increased. The new RAS providers often combined the pure provision of advice with other services such as supply of agricultural inputs or marketing. The original Oblast RAS copied this provision of combined services.
- ❖ A microfinance industry evolved. The Oblast RAS learned to provide services to micro-finance institutions too. Increasingly the RAS providers themselves offer own micro-finance services. They thereby follow the GIZ initiated TES centre, which had ventured such a combination with success.

Learning: Diversifying services is a survival strategy of the RAS providers: e.g. to combine the supply of inputs, the offer of micro-finance services and marketing services with the pure provision of advice.

2.4 Contributions to capacity building

With the following interventions KSAP significantly contributed to capacity building of RAS staff:

- 1.) Employment of international advisors at the level of the national units and for a certain period in each Oblast RAS to directly train RAS staff.
- 2.) Continuous and repeated training of RAS staff through international and local experts in RAS contents and methods; several times annually, according to requirements
- 3.) Establishment of the Training, Advisory and Innovation Center ZOKI in order to institutionalise capacity building in the long run.

The intense capacity building activities of KSAP is seen as a major contribution to the long term functioning of the RAS system. The project built capacities of around 350 extension workers, which is 50 worker in each Oblast or one extension worker for 2'600 persons living in the rural area. Schmidt (2015) considers this number as a critical mass of extension workers, allowing for attracting other actors using the RAS system. These extension workers are up to date working in one or the other extension institution. Although they are not financed by the state, as it was originally planned, they are acquiring finances for their RAS delivery from different sources: mainly from donors, but also from the private sector.

ZOKI today still exists but only partly fulfils the originally intended functions. ZOKI is still a professional centre for RAS. But rather than training the extension staff of other RAS providers, ZOKI today has become a RAS provider itself. The reason for this development is seen in the fact, that emerging donor projects in RAS often plan on a short term basis and do not allocate funds for capacity building of staff of the RAS providers. The ZOKI as pure training centre is thus economically not viable. Hence, the KSAP's contributions did not lead to the institutionalisation of a continuous capacity building of extension staff. However, they led to the availability of RAS staff and allowed for RAS provision in a way it did not exist before KSAP's intervention.

Learning: The KSAP capacity building of RAS staff is seen as a crucial investment for the functioning of the later RAS system. A critical mass of extension staff must have been available to attract private and public sector, or other donors to employ the RAS services.

2.5 Contributions to extension contents and methodologies

The project contributed to extension contents and methodologies in the frame of its capacity building activities. KSAP promoted a group based approach for extension, based on participatory extension methods. The extension contents were defined by the national and oblast steering committees, the Oblast and Rayon RAS through participatory and gender sensitive methods, and later by the Koshuuns. KSAP aimed at fostering sustainable agricultural practices, such as crop rotation and compost making. Accordingly, KSAP facilitated trainings corresponding to the requirements of farmers as well as to the idea of sustainable agriculture.

2.6 Contributions to extension policies

Integral part of KSAP was the Policy Support Project, a unit of capable staff within the MAWR with the intention to strengthen policy-dialogue and strategy development related to advisory services in agriculture. The main achievement is seen in the participatory elaboration of the *Agrarian Policy Concept* 2010. And the Policy Support Unit contributed to the adoption of an official extension strategy in 2010. In addition, the Unit supported

MAWR to develop a public investment programme in agriculture and to improve coordination of the projects and donors active in the agriculture sector (Ludemann: 2010). In 2011, 61 donor-driven activities related to agriculture existed in Kyrgyzstan: 46 projects, 11 programs, three funds and one centre (ZOKI).

The elaborated Policy Concept indicates the strategic goals for development of the sector in order to coordinate the diverse activities. The goals are:

- To establish ways of production that can guarantee sustainable provision of food for the country's population and raw materials for the national industry
- To develop production systems to facilitate preservation of the natural environment and ensure food safety
- To establish marketing and export outlets for agricultural produce and agricultural products. (Ludemann: 2010)

Learning: Offering expertise and funding for policy dialogue was not sufficient to capacitate the different actors involved in agricultural extension to sustainably engage in a meaningful policy dialogue related to agriculture, including the provision of RAS.

2.7 Financial contributions

The financial contributions of KSAP amount to approximately CHF 20 Mio in 16 years. The budget in the first year (1995) was around 0.7 Mio CHF and increased until 2002 to around 2 Mio CHF annually. In 2010, it reduced down to 0.4 Mio CHF. Out of this, the project spent about 25% for expatriate advisors, which contributed to the quality and functioning of the RAS system, as well as to capacity building. The annual costs of one Oblast RAS were in the range of 100 – 150'000 USD. The annual costs of the central coordination unit RASCO and the training centre ZOKI were in similar order of magnitude.

Learning: Finance flows are a considerable means to influence decision power in RAS and to foster certain actor constellations. By ignoring the expected future fund flows, KSAP did not make use of this means.

The contractual basis for KSAP was a bilateral agreement between the Governments of Kyrgyzstan and Switzerland. The responsible line ministry, the MAWR, together with SDC formed the Steering Committee of KSAP and therefore was always well informed about the project's progress. However, for reasons explained earlier in this document, KSAP decided not to route its funds through the MAWR, although it eventually expected the GoK to cover a substantial part of the costs for extension. In hindsight one may conclude that KSAP didn't sufficiently realise the importance of the fund flows to create ownership on the side of the GoK for a functioning RAS system. In contrary, the World Bank routed all its funds – mainly the soft-loan provided by IFAD - via the MAWR and later the national RASCO to the Oblast RAS.

Learning: KSAP established a parallel structure for the facilitation of demand-side financing, instead of using and empowering the available local structures to allocate government or donor funds for RAS.

By introducing a demand-side finance system for RAS in 2007, the donors of the RAS system recognised the fact that accountability of RAS providers is directed towards the source of funds. However, in this aspect, they didn't make use of the locally available structure of Ail Okrugs and the fact these structures could have been sustainably strengthened to allocate government funds for RAS.

Effects: With its project funds that were strongly directed towards capacity building of extension staff, KSAP reached a critical mass of extension workers that are up to today available for the extension system. The capacities of the KSAP extension staff now enables the RAS entities to acquire donor funds, as well as such of the private sector.

3 Efficiency of the project contributions

This study calculates efficiency based on a very rough calculation dividing the total project costs by the number of farmers reached with RAS.

Total Project funding / number of farmers accessed by RAS

From 1995-2010, SDC provided CHF 20 Mio to KSAP. With that fund, the project directly reached out to approximately 55'000 farmers per year, served an estimated 30% of all farmers, and had around 50'0000 permanent clients. (Schmidt: 2012)

The project costs for one permanent client are accordingly:

$CHF\ 20\ Mio / 50'000\ farmers = CHF\ 400\ per\ permanent\ RAS\ client$

$CHF\ 20\ Mio / (50'000\ farmers * 16\ years) = CHF\ 25\ CHF / farmer\ and\ year$

The outcome assessment of the RAS services conducted in 2011 (KSAP 2011) shows a high cost-efficiency of the RAS services; "they are estimated to have had a remarkably high return on investment of 24 KGS return in farmers pockets for every KGS cost of advisory services (across all the assessed services)." (KSAP: 2011)

4 The RAS system today

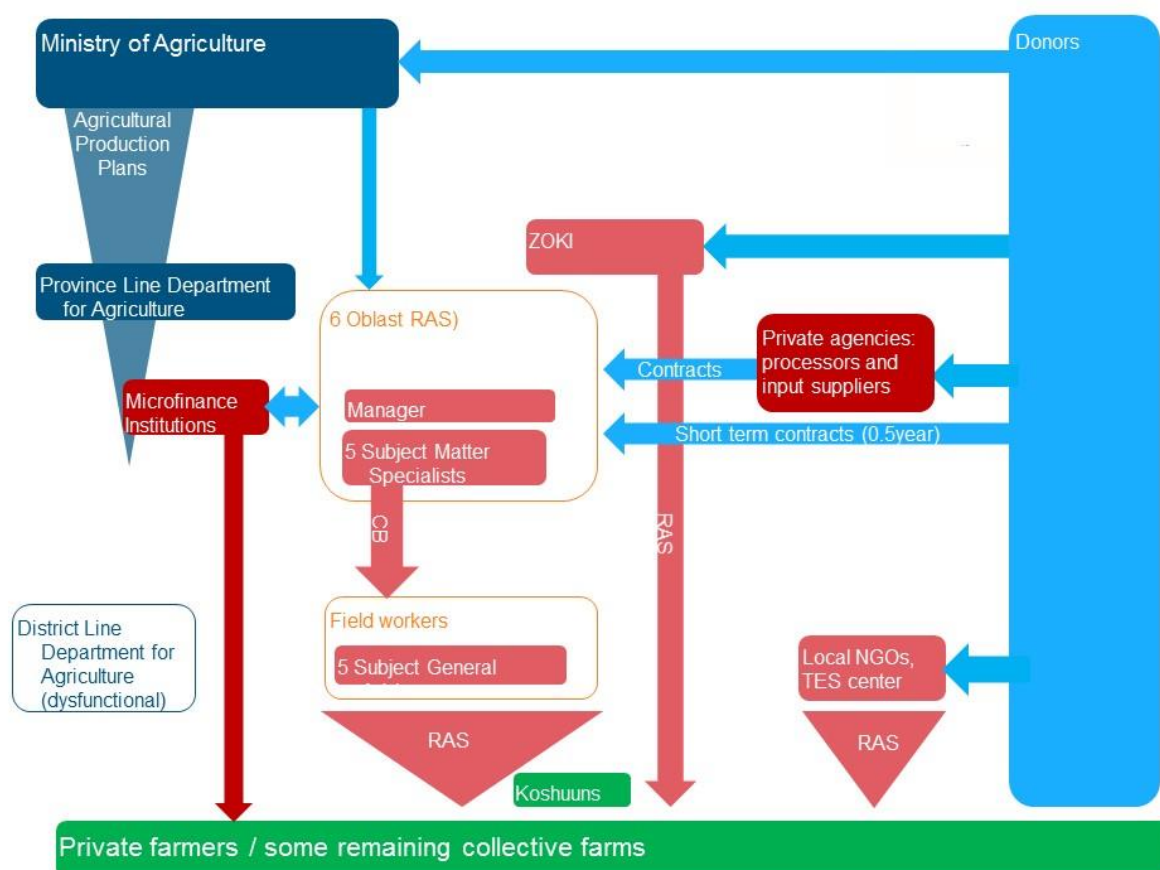


Figure 45: Kyrgyz RAS system after the project intervention. Red=NGO/Private sector RAS provision, green= farmers and farmer groups; blue = GoK institutions; turquoise = fund flows. (Author's own figure, based on Schmidt (2015))

The RAS system today is still based on the six Oblast RAS offices that have been established by KSAP. They are operating according to contracts mainly with other donors, but also with private sector companies. Other RAS providers evolved and sometimes compete, sometimes simply complement the Oblast RAS. The GoK is still not significantly contributing to the RAS, respectively still acquires donor funds for financing the RAS system. This chapter describes the effectiveness of the established KSAP RAS system, discusses its

inclusiveness and sustainability and gives an overview on its pluralistic dimension and agricultural knowledge system.

4.1 Effectiveness of the RAS system

Economic effects and food security

In 2011, SDC/Helvetas published an outcome assessment, which provides insight to the effectiveness of the current RAS system. For the assessment 800 farmers were interviewed (51% women, 49% men). The results are:

Today, a network of six Oblast RAS operates in the whole territory of the Kyrgyz Republic with field advisers in each of the 40 districts. They support rural people through providing know-how, facilitating processes and building up links to other relevant players (e.g. markets, credit) required for more productive and profitable farm activities. The topics of RAS services are wide and include the following:

- locally relevant crops and livestock types
- soil and water management, pasture management
- small-scale processing (fruits and vegetables, milk, wool and hides)
- business planning and access to credits
- marketing of farm produce
- support to local service providers, such community seed funds and private seed farms, artificial insemination and veterinary points, agricultural inputs shops, machinery services etc.

There has been much anecdotal evidence of the benefits that farmers derive from the services of the RAS, and it can be assumed that the RAS services contributed to the recovery of the agricultural sector in the country: the average annual growth of the agriculture sector since 1999 was 3%. (KSAP: 2011)

Today, the Kyrgyz Republic is able to cater for its needs regarding the most important food products like meat, milk, vegetables and, partially cereals. For sugar and oil the country is not self-sufficient and wheat production is not competitive; its quality does not meet standards and makes it necessary to buy flour or hard wheat from Kazakhstan. However, low quality of the products, a continuously growing demand, low incomes against increasing consumer prices, growing food imports, combined with stagnating export markets render it difficult to achieve national food security for all. (Ludemann: 2010)

The outcome assessment provides data on how RAS services have influenced the profitability and productivity of farm activities. Although farm related data bear the risk to be biased towards farmers able to provide relevant data – thus probably better-off farmers – the following charts provide exemplary indications of the RAS services' effects at farm level. They confirm the assumption that RAS services render agricultural activities substantially more profitable.

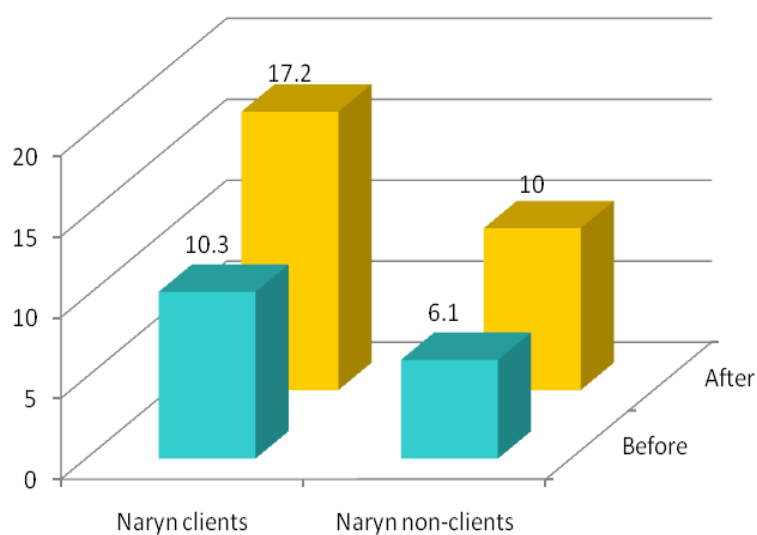


Chart 1: Potato yields of RAS clients and non-clients in Naryn (t/ha) (n = 800 farmers, left scale tons/ hectare) (KSAP: 2011).

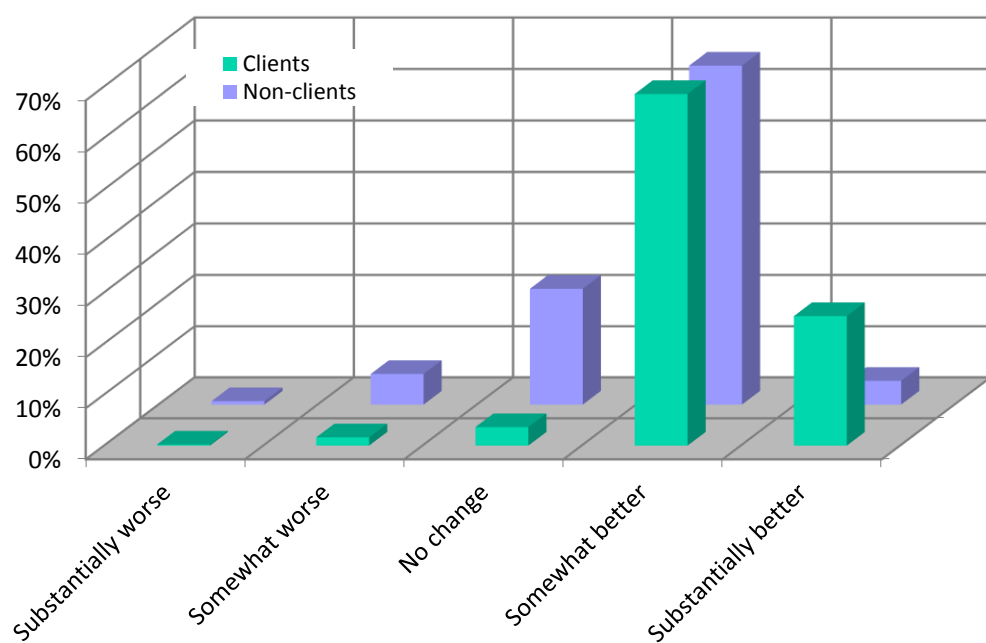


Chart 2: Changes in farm profitability in the last 10 years as perceived by RAS clients and non-clients (n = 800 farmers) (KSAP: 2011).

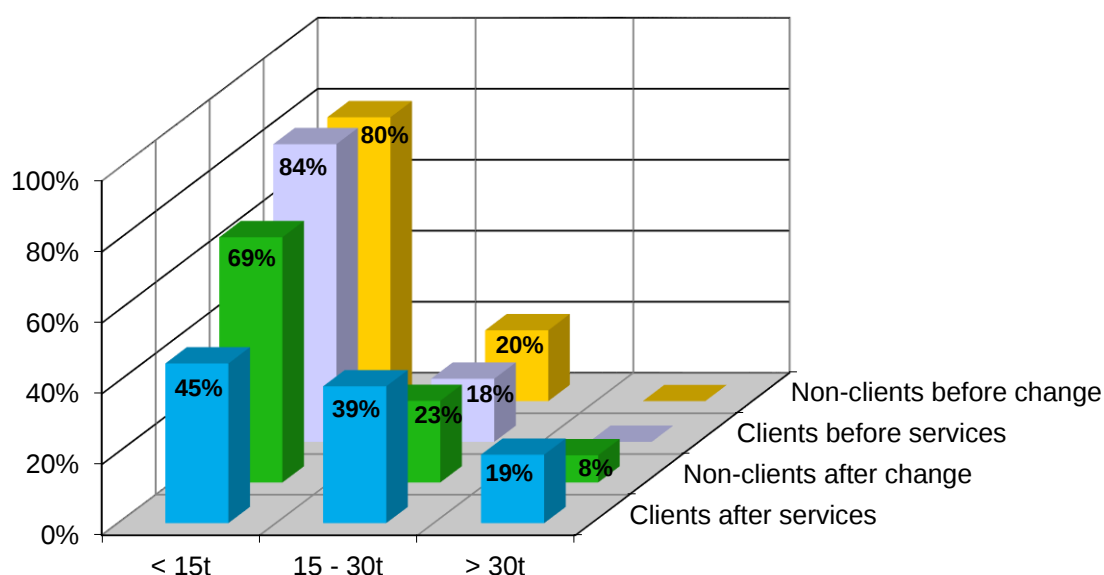


Chart 3: Potato yield before and after services/production change from RAS clients and non clients (n = 800 farmers). (KSAP: 2011).

The ROI was calculated as follows:

Crops:
$$\frac{(\text{"income increase per ha"} \times \text{"area per farmer after services"}) - \text{"cost of service per farmer"}}{\text{"cost of service per farmer"}}$$

Livestock:
$$\frac{(\text{"income increase per head"} \times \text{"no. of heads before services per farmer"}) + (\text{"income per head"} \times \text{"no. of additional heads after services"}) - \text{"cost of service per farmer"}}{\text{"cost of service per farmer"}}$$

Table 10: Estimated Return on Investment (ROI) for the various RAS services in the Oblasts Chui, Naryn and Jalalabad. The ROI shows the monetary value generated in farmers' pockets per Som invested in RAS services. (KSAP: 2011)

	Region	Estimated Return on Investment (ROI)
Crops		
Wheat	Chui	20 : 1
	Jalalabad	33 : 1
Potato	Chui	35 : 1
	Naryn	6 : 1
Tomato	Chui	3 : 1
	Jalalabad	73 : 1
Sugar beet	Chui	29 : 1
Livestock		
Dairy cows	Chui	14 : 1
Meat sheep	Naryn	28 : 1
Poultry	Chui	20 : 1
	Naryn	10 : 1
ROI over all above services and regions		24 : 1

Food security was not an explicit project goal. Accordingly, there was no assessment done to create evidence about how farmers effectively invested the financial gains of increased farm productivity and income. However, one can safely assume that increased production and higher revenues positively influence food security of the producers and their families. Further, among the important advisory topics were vegetable production and their processing. These interventions undoubtedly contributed to a more nutritious diet, particularly in remote mountainous areas.

4.2 Social effects and inclusiveness of the RAS system

At the end of 2009, around 30% of the RAS advisers were women, catering to a large extent to female clients. This was thanks to women quotas, which the project introduced. The percentage of female RAS clients has been in the past around 60%. Much of the services provided to women concern income generation and the establishment of small businesses (dairy processing, village bakeries, commercialisation of traditional felt products etc.), but also in agricultural technical trainings the participation of women is substantial. The outcome assessment (2011) confirms that many women clients of the RAS actually gained substantial additional income as result of the RAS services and that they consider RAS services useful. (EPR: 2009)

KSAP fostered the RAS offices to deliver services in remote valleys and villages. After the phasing out of the project, coverage as a whole and the outreach to disadvantaged and remote clients most likely has reduced as compared to some years ago. The reason for this is an economisation process of the RAS system evoked through the phasing out of project funds. With new donors coming in, as well as private sector agencies contracting with the Oblast RAS the focus on disadvantaged groups and women differs from contract to contract.

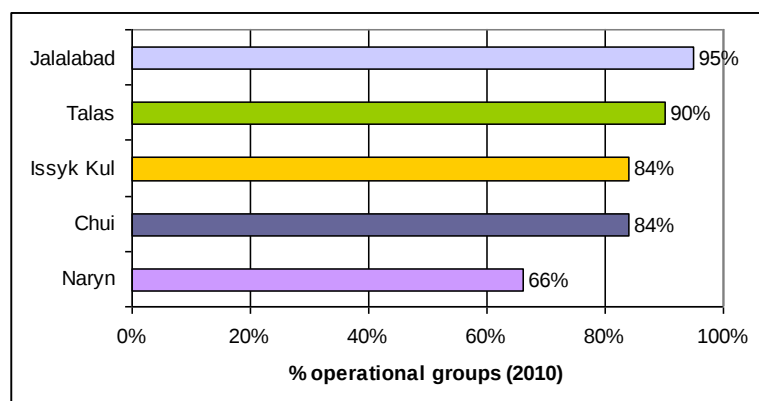
4.3 Sustainability of the RAS system

There are three aspects of sustainability to be discussed regarding the RAS system:

Sustainability of capacity building for RAS actors

In spite of the project's effort to establish the capacity building centre ZOKI, capacity building for RAS providers is today not fully sustainably institutionalised. The reason is not seen in a lack of capacities of ZOKI staff, but in the fact that those donors that are now financing RAS include only rarely service provider capacity building components into their projects. Private companies are offering capacity building themselves in case they consider that necessary. This leads to the situation that no institution has an interest to support the ZOKI that therefore more and more concentrates to provide RAS services to farmers itself.

Attempts to integrate agricultural extension into curricula on university level did not lead to highly qualified university graduates or an in-service training offer provided by academic institutions.



Sustainability of farmer groups activities

The sustainability of the activity of farmer groups varies from Oblast to Oblast, but is generally high, compared to other donor-funded RAS projects. The following table shows that 66-95% of the farmer groups established by the Oblast RAS with funding from KSAP are still active. This allows the assumption that they have a sustainable benefit from working together (KSAP: 2011).

Table 11: Activity of farmer groups in percent of total assessed farmer groups in 2011. (KSAP: 2011)

Sustainability of the Oblast RAS

The evolution of the RAS system in Kyrgyzstan provides evidence that the chances to reach economic sustainability for a service provider are higher if the service provider combines various services. While the GIZ supported TES Centre offered RAS in combination with input supply and credits right from the beginning, KSAP

was critical towards such combined services. Schmidt (2012) states that the project "should have been receptive to other models, in particular to revising their rigid opposition to combining rural advice with the provision of agricultural inputs and credits and instead should have invested in mitigating the possible negative effects of the combination (such as biased advice, unequal coverage etc.)."

Today, most of the Oblast RAS offer combined services in order to create financially viable services. In this regard, however, one need to remember that financial sustainability of an extension service provider in Kyrgyzstan today means mainly being capable to access donor funds. Being owner of an office location makes it easy for the Oblast RAS and the ZOKI to endure times without service mandates. Thanks to the resulting low fixed costs and flexible work assignments (staff is discharged when no RAS mandates are available), RAS offices are able to react flexibly on changing RAS mandates. In this regard, the established institutions are considered sustainable.

4.4 Pluralistic dimension

The pluralistic dimension of RAS is shown in the subsequent figure. The GoK takes a coordinating role in the allocation of donor funds and partly also manages donor funds for RAS. However, today, as twenty years ago, RAS is financed to the greatest part by donors, while the provision of RAS is offered by NGOs (including the RAS offices), input providers and processors.

Source of finances for services	Service Providers					
	Public sector	Private Sector			Civil Society	
		Input supplier	Processors / traders	Private RAS providers	NGO	Farmer Org.
Public						
NGOs / Donors		Some private sector companies (LMD)			NGOs	
Private companies		Private sector input suppliers and processors				
Farmers						Some farmers are member of FO
Farmer Org.						

Table 12: Pluralistic dimension of the Kyrgyz RAS system (adapted from Anderson and Feder (2004))

4.5 Agricultural Knowledge and Innovation System

The knowledge system is currently rather weak. Linkages between the national and oblast RAS and Kyrgyz research organisations are informal, non-existent, or occasionally based on specific tasks (non-systematic). (Kazbekov: 2011)

Knowledge and innovation enter the system through donor-financed projects or via private sector engagement. Thus, it is up to those institutions to decide about which innovations will be spread and promoted by the RAS system.

All Oblast RAS are issuing their own newspaper. Earlier they published them monthly. E.g. the RAS Jalalabad newspaper "Beles" was published monthly in approx. 2500 copies (KSAP: 2011). These regular newspapers are an instrument to disseminate information, and to show presence in the region. Now, due to funding constraints, the frequency of the newspapers varies between monthly and quarterly. The sales price (3-10 KGS per copy) is not sufficient to fully cover the production costs. The Oblast RAS are trying to include a budget allocations for publication of results and insights into all donor projects in which they are involved. However, not all donors agree to this.

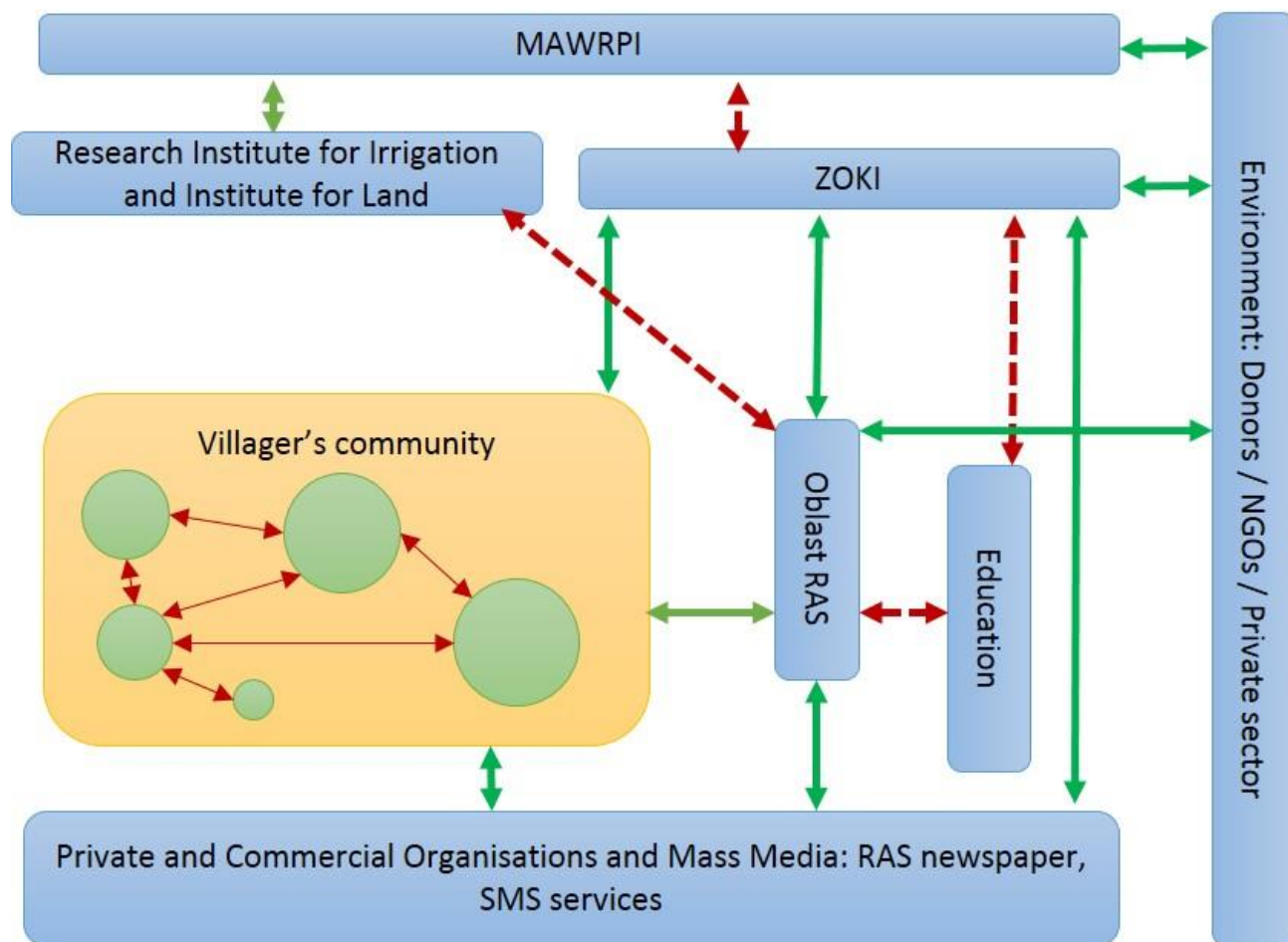


Figure 46: Agricultural Knowledge and Innovation System. Green/fat = functional linkages; red/dotted line = weak linkages. (adapted from Agridea (2009))

5 Conclusions: Learnings and innovations from KSAP on how to reach large numbers of farmers with RAS

Based on KSAP experiences one can derive a range of learnings, including project practices recommended to replicate, and such to be avoided.

Fund flows are an important means to create ownership and decision making power

When the GoK and donors in the mid-nineties decided to invest into a county-wide RAS system there were very few functioning institutions: A weak central government with frequently changing key staff, no local government structures, hardly any functioning private sector companies and no organised civil society groups. Also later, in the lifespan of the project, KSAP was confronted with a fragile state, e.g. the managers of KSAP dealt in 10 years with 11 ministers of the MAWR. During project implementation the country experienced three revolutions or civil wars. In this situation the Swiss were always of the opinion that the countries' RAS system first of all should belong to the farming community and should not be a pure government institution. At the same time the planners were well aware that the state has an important role to play when it comes to the funding of RAS in the public interest. During the 16 years of project intervention KSAP failed to sufficiently build the required understanding within the GoK for the importance of RAS and to assure the capacities within the government to steer the provision of RAS in the country. This has to do with the decision to route the Swiss funds for a long time directly to the Oblast RAS providers and not through the government system. But this has also to do with the fragile context and weak government structures after the collapse of the Soviet Union.

The corrective measure, namely to move rigorously to a demand side funding, was taken only late in the lifespan of the project. In the meantime the legal basis (self-governance act) for empowered local government structures had been created. In hindsight it is therefore difficult to understand why the donors decided to establish the Koshuuns as parallel structure on village level. In addition, the Koshuuns had no other function than to communicate farmers' RAS requirements to the RAS providers. This is not a sufficient reason for existence and therefore it is not surprising that only a small fraction of the Koshuuns continued to exist.

Availability of donor funds for RAS limits financial contributions of Governments to RAS

KSAP and the other involved assumed that the Government will progressively finance the RAS system. Although the government always assured that it would do so, in substance this did not happen until today. The reason is seen in the fact that donor funds were and still are available to finance RAS, thus although the GoK has a public interest to assure that RAS services are available to the farming community, the GoK did not see a necessity to finance it from tax payers money. To expect the Government will pay RAS as long as donor funds are easily available might thus be a misleading expectation.

Flexibility of all RAS actors is key for sustainability

The case of KSAP shows from diverse experiences that flexibility of donors and RAS actors is key for success. The story of KSAP can be read as a learning journey with try and error and adaptation to changes outside of the influence of the project. In the beginning three of the six Oblast RAS faced problems to receive funds regularly from IDA, which led to interrupted service delivery at a critical point of time. Negotiations among government and the involved donors led to more flexible funding mechanisms, which fostered the necessary continuity of the system.

The project revised its approach to develop a RAS system at least twice in order to adapt the project activities to new situations. That way KSAP made best use of opportunities, such as the collaboration with the World Bank, the establishment of the ZOKI, the change to result-based payment system, or the adaption of the system to new actors entering the system. This all was only possible thanks to a flexible donor, as well as a long term perspective in project planning.

Last but not least, RAS actors themselves proved to be highly flexible to react on changing contracts and availability of funds. They keep their fixed costs low, and employ staff on a short term basis in order to avoid any risks. That way, they are able to quickly react to new situations and use emerging opportunities.

Demand side interventions are key to support accountability towards farmers

KSAP's underlying vision for a RAS system in Kyrgyzstan was that it should be farmer owned and farmer driven. However, in reality, KSAP's intervention mainly focused on the service deliver side by building a network of capable RAS providers. The demand side interventions included:

- Involving traditional power structures in decision making (in the initial absence of a local government)
- Introduction and application of participatory methods, e.g. for needs assessments (Participatory Rural Appraisals), innovation (Participatory Technology Development) and market assessments (Rapid Market Appraisals)
- Creation of a membership system
- Farmer owned steering councils.

The project had to accept that the basic democratic system of membership and elected councils did not fit to the cultural context at this moment of time. The later shift to strengthen accountability of the RAS providers to their clients through the introduction of demand side financing (Koshuuns) did not work as intended. Retrospectively, this was not enough to render the system demand-driven, in a way that farmers play a key role in defining and evaluating extension contents. Up to date, farmers are rarely directly involved in RAS planning, and RAS activities are defined mainly on the basis of project goals or by private sector's interest. However, the outcome assessment clearly shows that producers increased farm profitability thanks to the RAS and that farmers consider the services highly useful, all the same whether they were involved in planning or not.

Projects can sustainably influence the extension content

By building capacities of a huge number of extension workers, any project has a great influence on the future extension content and methods applied. KSAP pursued an orientation of RAS to sustainable agriculture, including crop rotation, compost making, and soil fertility management to name a few. With that, KSAP gave the future RAS content a direction towards sustainable agriculture, which wouldn't have taken place if KSAP had transmitted responsibility for capacity building to the private sector or the then available state institutions.

Capacities of RAS staff are key to strengthen the involvement of other actors in RAS

KSAP invested a substantial part of the project budget into the capacity building of RAS staff. This prepared the ground for other actors to use the RAS system. The availability of a critical mass of qualified extension workers spread over a broad region or the whole country is seen as key for the successful engagement of Oblast RAS with the private sector and other development projects. Capable staff is the key capital of today's pluralistic service providers and with this the backbone for sustainable RAS in Kyrgyzstan. Today, the challenge is to maintain respectively renew this capital.

Institutionalisation of capacity building within the RAS system

KSAP realised this challenge in early stages of the project. As a response and in absence of an institution that could fulfil the role of continuous education and further development of human resources involved in RAS, KSAP established ZOKI. This was an attempt to institutionalise capacity building of the RAS system. It created a place for it by providing office space in Bishkek, it trained master trainers and financed the ZOKI to develop trainings. ZOKI was owned by the Oblast RAS (this means its clients). The vision was that ZOKI would become financially sustainable by selling its services to the Oblast RAS (training fees, consultancies etc.). Reality showed that this was only partly realistic. With the phasing out of the relatively generous Swiss and IDA funding the Oblast RAS had to economise and thereby reduced their investment into staff development. Today, most donor projects perceive the RAS as pure service providers that have to finance capacity building from their profit. At the same time prices paid for RAS services make it difficult for the RAS providers to substantially invest into human resources development. As a consequence ZOKI had to seek other sources of income and increasingly became a RAS service provider itself, thereby sometimes competing with the own constituency. Further, the ZOKI didn't become part of the national education system and remained a somewhat institutionally isolated organisation. Both factors hinder sustainable institutionalisation of the education system for RAS staff, although KSAP made great efforts to create a continuously available training system.

Support pluralism from the beginning of a project

In spite of aiming at one country RAS system, KSAP eventually contributed to successfully establish a pluralistic RAS system. Retrospectively, KSAP learned from those RAS actors that were not part of the by KSAP supported RAS system but operated in parallel. E.g. the TES centre offered RAS combined with credits and agricultural inputs. Based on the positive experiences of TES, this was copied by most Oblast RAS. Since modern RAS is not anymore limited to the bare spread of agricultural information, but includes all services required to successfully lead a farm business, an effective RAS system is seen as a network of diverse actors and initiatives. Projects should take this into account right from the beginning and promote diverse approaches and service combinations in parallel.

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Where not otherwise mentioned, the study bases on information provided by Peter Schmidt, who worked as a long term project manager and advisor for KSAP.

TWO STUDIES TO CAPITALISE EXPERIENCES OF LARGE COUNTRY RAS SYSTEMS

- Analysis of Country RAS Systems 1: The country RAS system in China
- Analysis of Country RAS Systems 2: The country RAS system in India



Methodology

The studies below build together a broader analysis to capitalise experiences (CAPEX) in SDC financed RAS projects, and in large scale country RAS systems in general. The goal is to derive learning on how these projects reached out with RAS to a large number of farmers in a poverty oriented, ecological and sustainable way.

The following studies are part of the broader learning exercise:

- CAPEX RAS: Public Service for Agriculture and Rural Development Programme – Vietnam
- CAPEX RAS: Sustainable Soil Management Programme – Nepal
- CAPEX RAS: Samriddhi Local Service Provision – Bangladesh
- CAPEX RAS: Laos Extension for Agriculture Programme – Laos
- CAPEX RAS: Kyrgyz-Swiss Agricultural Project – Kyrgyzstan
- CAPEX RAS: Country RAS system in India
- CAPEX RAS: Country RAS system in China

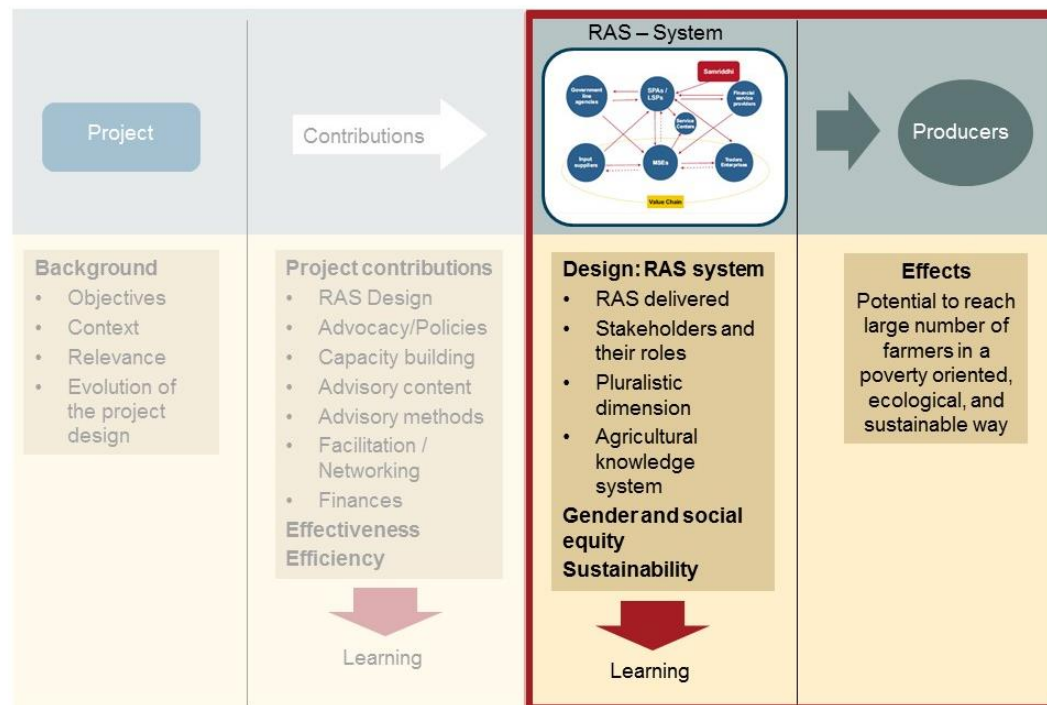
All analyses are desk studies based on project reports, thematic publications, and interviews with one to four resource persons. The studies follow the same research approach:

In a first step, each study describes the project background and analyses the project's contributions to the RAS system, in particular their effectiveness and efficiency. In a second step, the studies examine effectiveness, sustainability, and inclusiveness of the supported RAS system by analysing the effects on agricultural producers. In the case of the country RAS system analysis, the studies focus only on the RAS systems and their effectiveness.

The goal of the studies is to search for learning and innovation on

- 3) how RAS systems best reach out to a large number of farmers in a poverty oriented, ecological, and sustainable way,
- 4) and how development actors can support such RAS systems.

Research framework for country RAS analyses





Stefanie Kaegi 05.05.2015

Analysis of Country RAS Systems 1: The experiences of China's agricultural extension system in reaching a large number of farmers with rural advisory services

A study to capitalise experiences in SDC financed rural advisory services programmes in Asian countries



Schweizerische Eidgenossenschaft
Confédération suisse
Confederazione Svizzera
Confederaziun svizra

Federal Department of Foreign Affairs FDFA
Swiss Agency for Development and Cooperation SDC
Global Programme Food Security



A+FS Network
www.sdc-foodsecurity.ch
With family farmers towards
a world without hunger



HELVETAS
Swiss Intercooperation

Summary

This desk study analyses the Chinese rural advisory service (RAS) system with the goal to derive learning from its successes and challenges in reaching millions of farmers in a poverty oriented, ecological, and sustainable way. The study provides a description of the public extension system, and analyses a range of private and civil society RAS providers, which are representative for ongoing RAS initiatives throughout the country.

Cornerstones of the Chinese RAS system

The agricultural sector

- The agricultural sector contributes 10% to the national GDP
- 300 million persons, respectively 20% of the Chinese population are farmers
- The average farm size is 0.6 ha, most of it is private land
- Since 1980, the country's grain production increased four times and reached over 500 million t / year.
- China is among the countries with the highest fertiliser use / area

The worlds' largest system public extension system

- In 2006, 787,000 extension workers provided services to 637,000 villages. (one extension staff per 283 farm households) (Hu: 2012)
- Public extension is offered in every county and township of the country, irrespective of how remote they are (Binswanger: 2012)
- Large number of public private partnerships (PPP) at county level, mainly for the sales of inputs, The rationale of PPPs is to complement public finances for RAS and to increase the outreach of private input providers.

Key learnings from the Indian RAS system

- China shows clearly that also in a pluralistic RAS system with strong involvement of private RAS stakeholders, the backbone of the extension system remains public extension, in particular when it comes to outreach.
- By allowing extension workers to sign contracts with private input suppliers, the Government of China (GoC) strengthened the public RAS system's financial sustainability and introduced a business mode of thinking into the public extension system. This also fostered a shift of the extension focus away from advisory towards input supply.
- Through the direct farm programme, the GoC successfully supports supermarkets to integrate their supply chains and to directly offer inputs, credits and advisory to collaborating farmers. To this end, the GoC facilitates linkages and offers incentives for direct farm companies.
- The demand of consumers for safe food, as well as public concerns about environmental and human damage through misuse of agro-chemicals led to increased private investments into advisory on the correct use of chemicals.
- The farmers' house system puts the public extension workers in the role of advisors, while the private input suppliers act as sales agents. This combination enables farmers to access advisory services and in the same time agricultural inputs.
- Cooperatives' right to enter business relationships is crucial for that 1) agricultural cooperatives evolve, and 2) operate in a business oriented way.

Major challenges

- Sales of agricultural inputs are the only financial incentives for public extension workers. This leads to a shift of the extension focus from advisory services to the sales of agro-chemicals and improved seeds.
- Public extension workers have to cover a range of services besides extension. Depending on state priorities, agricultural extension is neglected.
- In the case of China, decentralisation of agricultural extension activities did not go along with a decentralisation of public funding and the fiscal system. This significantly weakened the public services.
- The focus of private and public RAS is productivity increase through intensified agriculture, which results in excessive use of agro-chemicals.

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Abbreviations

AESTF	Agriculture extension special task force
ATE	Agriculture and Technology Extension (the public extension system)
ATESC	Agriculture and Technology Extension Service Centre
DBN	Da Bei Nong group
GoC	Government of China
NATESC	National Agriculture and Technology Extension Service Centre

1. Introduction

In China, the agricultural sector is with a contribution of 10% to the national GDP of great importance for the country's economy. It employs more than 300 million farmers, thus about 20% of the total population. Although China is considered a communist state, land has been privatised and distributed among approximately 200 million households, with an average land allocation of 0.65 hectares per household (Qamar: 2012). Since the opening of China's economy in the 1980s, the country's agricultural production has made extraordinary achievements: the country's grain production increased four times and reached over 500 million tons per year. Today, China produces food for 21% of the world's population on only 10 percent of the world's total arable land. The increase in agricultural productivity is reflected in farmers' per capita income, which has increased by a factor three since 1978 (NATESC: 2011).

China has the largest extension system in the world: the so-called Agricultural Technology Extension (ATE) system. The ATE system has played a considerable role in increasing the country's agricultural productivity (Huang and Rozelle (1996).

In the last 40 years, the system has faced a range of policy reforms and system-wide changes in agriculture, whereas the main change is seen in the transition from a planned to a market-based economic system. This transition has shifted the Chinese extension system from administration-oriented to an income-generation system (Shao: 2002).

Private sector involvement combined with broadly evolving economic farmer cooperatives play an increasingly important role in the agriculture extension and marketing system. While in the beginning, private sector agencies concentrated on input provision and simple service contracts for embedded services, they are more and more involved also in integrated value chains or large public-private partnerships.

While the former public service provision still remains the main pillar of the Chinese extension system, the involvement of private actors provides a range of insights on how public private partnerships for extension are organised, and the possible roles of private sector agencies in agricultural extension.

This desk study first describes the policy framework of the country extension system. It then gives an overview of the major reforms and development phases of the public ATE system. Further on it gives examples of private sector agencies, civil society and farmer cooperatives involved in agricultural extension. By analysing the various ways of extension service delivery, the study aims at defining innovative practices that allow public and private extension service providers to reach out to broad populations in an inclusive and effective manner.

2. Agricultural subsidies, policies and programmes

This chapter provides an overview of the institutional framework for agricultural extension in China. They tackle the public as well as the private extension service provision.

12th National Modern Agriculture Development Plan 2011-2015

The National Modern Agriculture Development Plans define the agricultural strategy for each a period of 5 years. The objectives that tackle public extension services are:

- **Establish a mechanism to ensure steady increase in agricultural investment** through 1) a higher government investment into agriculture, and 2) improved financial services for the rural population.
- **Strengthen support and protection for agriculture** through 1) an improved agricultural subsidy policy, 2) an intensification of agricultural research and technology extension, and 3) an improved market system for the major agricultural crops.
- **Open agriculture wider to the outside world** through enhanced international cooperation and exchange, as well as international trade. The underlying motive is: Agriculture going global.
- **Foster agriculture reforms** mainly regarding the seed industry. The Government of China (GoC) will intensify its support to national demonstration of modern agricultural technologies. (MoA: 2015)

Farm subsidies

Although agricultural growth has been impressive in the last decades and farmers substantially increased their income, the growth of farm income in China struggles to keep up with the growth of non-farm income in urban areas. Farmers feeling themselves left behind, which poses a threat to the country's socio-political stability. This problem of relatively low farm income has been recognised as a prime policy challenge and was a major issue of the last three five year plans. As response to the farm income problem, China has increased its subsidies from 100mio Yuan in 2002 to 122.8 Billion Yuan in 2011 (approx. USD 19 Billion). (Barrett: 2013) This results in a subsidy of approx. 60\$/farmers/year.

Legal status for cooperatives

A new generation of cooperatives emerged in the last twenty years, but did not have a legal status until the GoC released the Farmer Specialised Cooperative Law in 2007. The law was adopted to create a legal framework for the establishment of cooperatives allowing them to act as market players. It highlights cooperatives' rights to provide services, such as purchasing agricultural inputs, marketing, processing, transportation, storage, agricultural technology and information provision (Jia et al., 2012). The granted legal status for registered cooperatives also allows them to sign contracts and to act as legal business partners. (Garnevska et al: 2011).

The Dragon Head Companies Programme, issued in 2002

The Dragon Head Companies Programme promotes agricultural industrialisation through contract arrangements between large agribusinesses and small scale farmers organised in economic cooperatives. Under the Dragon Head Companies Programme, the GoC grants special „Dragon Head status“ to companies that meet criteria related to their potential to improve the technology status, productivity and income of small farms. In addition, Dragon Head Companies are granted special tax status as well as access to loans with favourable terms through the China's Agricultural Development Bank.

In return, Dragon Head firms develop systems that improve farmers' access to markets, credits, and technology. In 2013, over 60,000 firms participated in the Dragon Head Programme (Zhang: 2013, in Michelson et al. 2013) and 27% of 157 sampled farmer cooperatives had linkages to Dragon Head Companies in 2008 (Jia et al. 2012).

Direct Farm Programme

In 2008, the GoC announced the „Direct Farm Pilot Programme“ with the goal to promote traceability and to increase farmers' income by eliminating intermediaries.

To reach this, the GoC selected nine supermarkets as pioneer enterprises and supported them to create linkages with farmers and farmer cooperatives, e.g. through conferences, local government support to establish cold chain storage or distribution centres. At the early stage, the Direct Farm program involved a handful of the large supermarkets as pioneer enterprises (e.g., Carrefour, Lianhua, Metro, Nong Gong, Walmart, etc.).

In 2009, a certification and financial incentive programme was announced to strengthen the involvement of farms and companies in the direct farm pilots in 13 provinces. Certified companies are eligible to receive financial incentives up to two million Yuan (approx. USD 300'000). (Michelson et al.: 2013)

3. Stakeholders of the country RAS system

The following figure provides an overview of the major stakeholders in the Chinese RAS systems and the interactions among them. The depicted stakeholders are described in the following.

3.1. The Public Agricultural Technology Extension (ATE) system

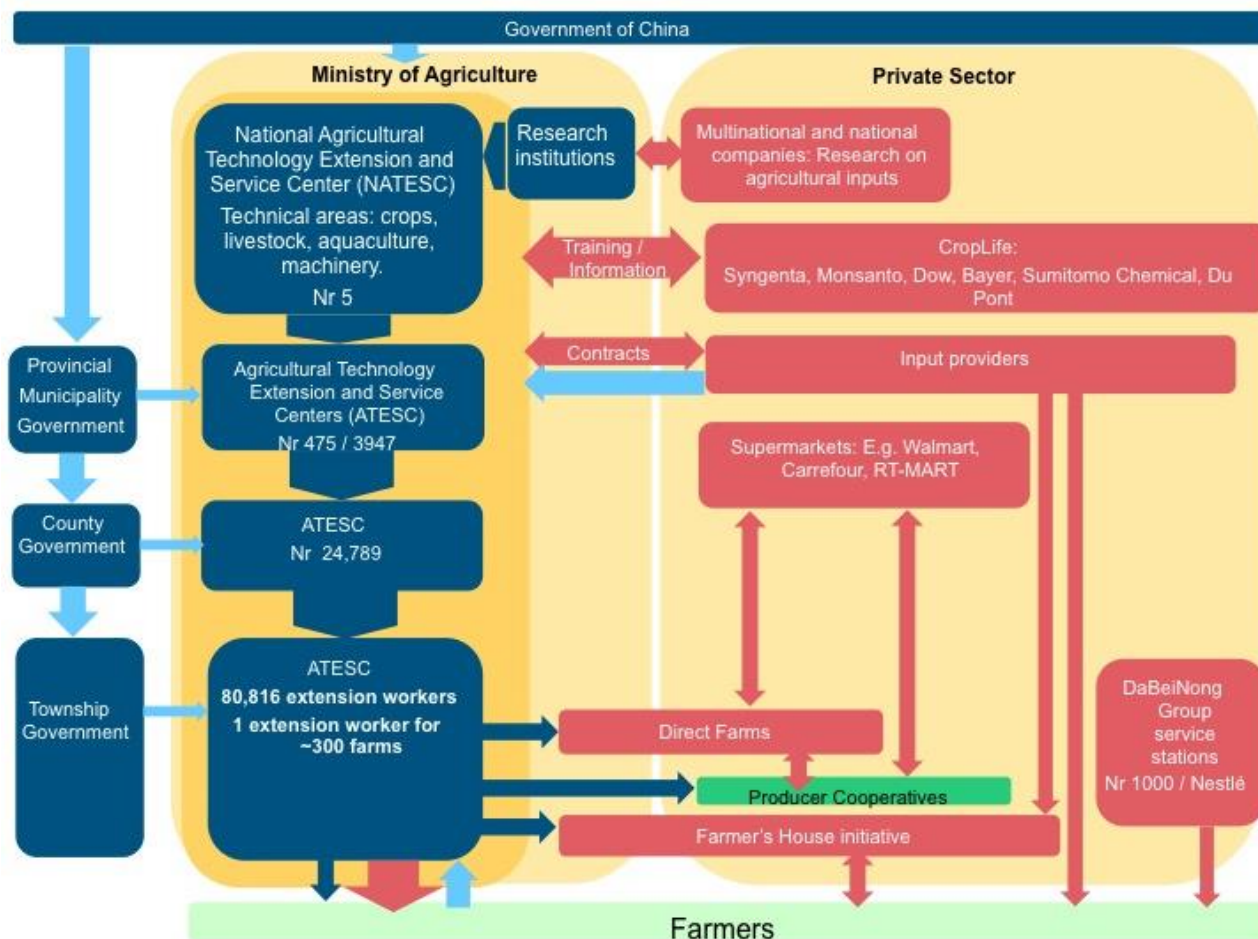


Figure 47: The country RAS system: Blue = public institutions; turquoise = fund flows; green = farmers and cooperatives; red = private sector agencies. (Author's own figure / indication about the number of extension staff for the year 2006 (NATESC: 2011))

The Chinese ATE system is a government organisation under the MoA with the aim to provide public agricultural extension services. The main features of ATE is

- 1) to communicate and implement the policies of the Communist Party of China,
- 2) to serve research and technology development, and
- 3) to contribute to increase agricultural productivity as planned by the GoC.

It is considered an achievement of ATE that China's crop production increased to 500 million tons per year (NATESC: 2011).

The ATE system is operating in every county and township of the country, irrespective of how remote they are (Binswanger: 2012)

In 2006, the MoA through the ATE employed a total 787,000 extension workers, which provided services to about 637,000 villages. That is one extension staff per 0.81 village or per 283 farm households (based on information of several studies in Hu: 2012)

Learning: Also in a pluralistic extension system as in China, the backbone of the extension system is public extension.

Since the 1980's the ATE system has faced basically three phases, characterised by a commercialisation of the system and decentralisation of decision power and financing mechanisms. The following chapter describes the major changes and derived learning.

Development of the ATE system

Up to the 1980s, the GoC invested into a high coverage of the public extension service providers. By begin of the 1980's, the country employed more than one million extension workers from which 70% graduated from higher agricultural education institutions. The ATE operated offices at the five administrative levels – national, provincial, prefectures, counties and townships. ATE was operational in every township, whereas the central administration's planned the content and way of service provision (NATESC: 2011).

Since the 1980s, China's government gradually re-established this ATE system. (NATESC: 2011)

1) The Commercial Reform

Since the 1980s, the large number of public extension centres was more and more seen as a financial burden for the government. The GoC hence issued a Commercial Reform in 1985 and decreased state funding for extension services. This resulted in an overstaffing of the extension centres, compared to the available salaries. Thus extension staff either stopped their work, or focused stronger on input supply that allowed for an additional income generation (Shao: 2002 Hu: 2012). The commercial reform aimed at increasing the earnings of the public extension centres through improved services, but in particular through increased sales of inputs (Hu: 2012). Along with the reform, the MoA allowed the public extension offices at district and township level to directly sign service contracts with private input providers and to obtain a bonus of the increased production. Both the bonus and the service contracts are supplementary income for the public extension workers: the farmers were expected to pay the bonus in the case of increased production, and input providers paid commissions on the sold inputs (FAO: 2015). In fact, farmers in China did not change their attitude towards public services and rarely paid for the services. Thus, the reform of this stage affected mainly the incentives of extension staff for commercial activities and did not evoke a change on the relationship between farmers and extension workers (Jia: 2015).

Learning: Allowing extension workers to contract with economic entities, fosters the system financial sustainability and introduced a business mode of thinking into the public extension system.

This all turned free public extension services into a commercially oriented extension system, in which benefits of extension technicians depend on production and sales of agricultural outputs. This "Chinese experiment" is particularly interesting because the function of the commercial scheme is not so much to recover the costs of extension but rather to provide incentives to increase production. In this scheme, farmers and extension technicians are closely associated with rights, responsibilities and economic interests that are defined in contracts between farmers and technician" (FAO: 2015).

Learning: China introduced an incentive system to its ATE. The joint interest of extension worker and farmers is to increase production: they share the benefits resulting from increased production.

2) Decentralisation of the ATE system

A second phase was initiated in 1990 with the **Decentralisation Reform**. The reform shifted the administrative rights from county to township governments, thus left the major decisions regarding extension to the township governments. A further decrease of state funding and a shift of priorities in public service delivery away from extension were the consequences of the decentralisation process. Furthermore, the linkages between the township extension centres and extension agents at higher administrative levels were further weakened (Hu: 2012).

Both, the commercial reform and the decentralisation reform fostered township technicians to focus on non-extension issues, such as sales of inputs, family planning, or administrative management – issues that had either not been decentralised in the same way as extension, or - in the case of input provision – issues that have been privatised (Hu: 2012). Thus, the commercial

Learning: In the case of China, decentralisation of decision power for agricultural extension system did not go along with a decentralisation of public funding or tax systems. This significantly weakened public RAS provision.

reform and the decentralisation reform weakened the public ATE system and left millions of farmers without ATE services (Hu et al.: 2010). However, by leaving the financing of RAS with the counties and linking it with private input providers the reforms introduced a business mode of thinking into the state extension system (Qamar: 2012).

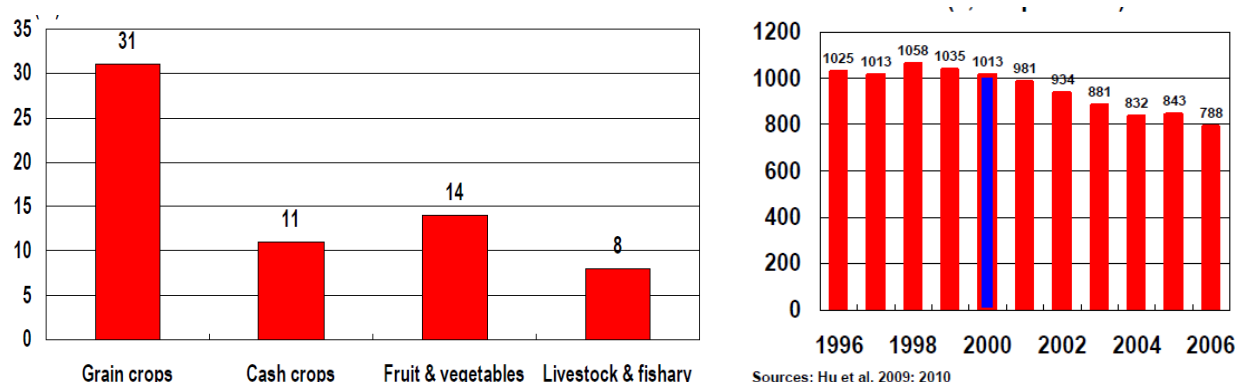


Figure 48: Left figure: Percent of farmers that received public extension services in China, 1996 - 2002; // Right figure: Staff under the government extension system (1000 person) (Hu: 2012).

3) Innovation and pilot phase: The inclusive extension reform pilots

In a third, so-called innovation phase, the MoA launched a nationwide innovation pilot programme for inclusive agricultural technology extension at grassroot level. According to the Communist Party of China's declaration of 2012, some of these pilot reforms, in particular such, allowing for further collaboration with the private sector, are now to be up-scaled to the entire country. (NATESC: 2011)

The inclusive extension reform pilot initiatives had four distinctive features:

1. to include all farmers as targets for public extension service,
2. to identify local farmers' needs for extension services in a participatory way,
3. to increase accountability of extension agents towards farmers,
4. to provide incentives to the extension agents for service provision.

A major initiative was the "responsible agent programme" for which, the experiment team randomly selected treatment and control villages in five regions. In the treatment villages, selected extension agents were trained in a broader range of extension functions than just technology for food grain production. The farmers receiving extension services of "responsible" extension workers had to rate the performance of extension staff according to 1) their availability, 2) their acceptance among farmers, and 3) the adoption of the proposed extension content. The "responsible extension workers" were offered a bonus up to 4000 Yuan per year if they performed well, whereas the "conventional" extension providers were not promised such bonus.

The following learning were derived from the pilot projects:

- Targeting all farmers and assessing farmers' needs are necessary conditions for that the public RAS system becomes inclusive.
- Incentives in form of a bonus that bases on annual evaluations of the services
 - increased the quality, accessibility and adoption of agricultural services.
 - increased the accountability of service providers towards farmers.
- Providing incentives is not without costs, what hampers scaling up of such reform-initiatives. Extension agents' attention for high quality service provision and related incentives diminished when the system was scaled-up: Accordingly, the farmers under the initial pilot initiative were more

Learning: Incentives for extension workers clearly improved the service delivery. However, the required monitoring and evaluation activities could not be kept at a required level during scaling up of the initiatives, and incentives lost their positive influence.

likely to receive, accept, and adopt the agricultural extension services than those under up-scaled reform initiatives. (Hu et al.: 2010)

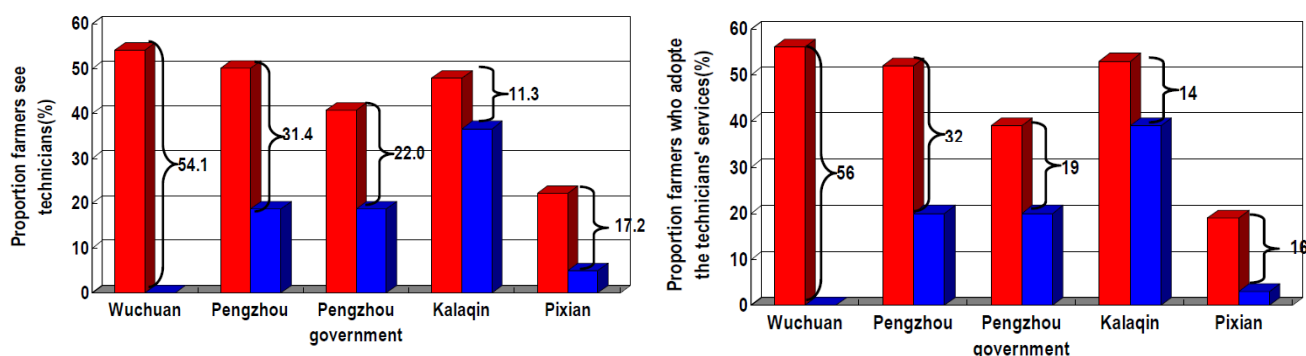


Figure 3: Changes in availability of service providers with the introduction of incentives. The chart shows the percentage of farmers that met technicians, respectively that adopted the services. Red/left bar - with incentives // blue/right bar - without incentives (Hu: 2012).

3.2. Multinational development actors involved in agricultural extension

There are only few multinational actors involved in agricultural extension in China. An example is the United Nations Development Programme (UNDP) that has jointly with the GoC initiated an agricultural extension programme in 1998: **The china agriculture extension special task force (AESTF)**.

The AESTF initiative sets up profit-sharing schemes to improve agricultural productivity, enlarge market access, and promote rural enterprise development. It therewith seeks to reform the traditional supply-driven government efforts in agriculture extension and introduce demand-driven and market-oriented mechanisms to link farmers to modern technology and new marketing channels.

Learning: The AESTF intervention introduced a benefit-sharing component into the public extension system.

Usually AESTF extension workers were selected from public extension centres, agricultural schools or research institutions according to their skills, knowledge and experiences. They established demonstration sites to show farmers the benefits of new agricultural products and technologies. AESTF extension workers support farmers to identify markets for the concerned product, and sign contracts with farmers to support them introduce the selected products. Most of the contracts guarantee minimum profits based on market price estimates of the products, as well as shared benefits.

Learning: The project was organised and implemented jointly with the NATESC, without generating additional costs for the state budget. This allowed for nationwide up-scaling.

Starting with a local initiative in 1998, the programme was scaled up nationwide by UNDP and the GoC to 1800 counties, and is now benefitting to over 60% of the rural population. Between 2006 and 2009, the average annual income of farmers benefitting from the AESTF services increased by 67%, which is 24% higher than the national average increase of farmers' incomes during the same time period.

3.3. Private actors in the Chinese extension system

Private agricultural companies play a mixed, but increasingly important role in the Chinese ATE system. Many of them are involved exclusively in the promotion and sales of agricultural products, and do not provide advisory services (Qamar: 2012). Other private agencies significantly contribute to agricultural extension. Selected examples are described in this chapter.

3.3.1. Da Bei Nong Group – An example for embedded services

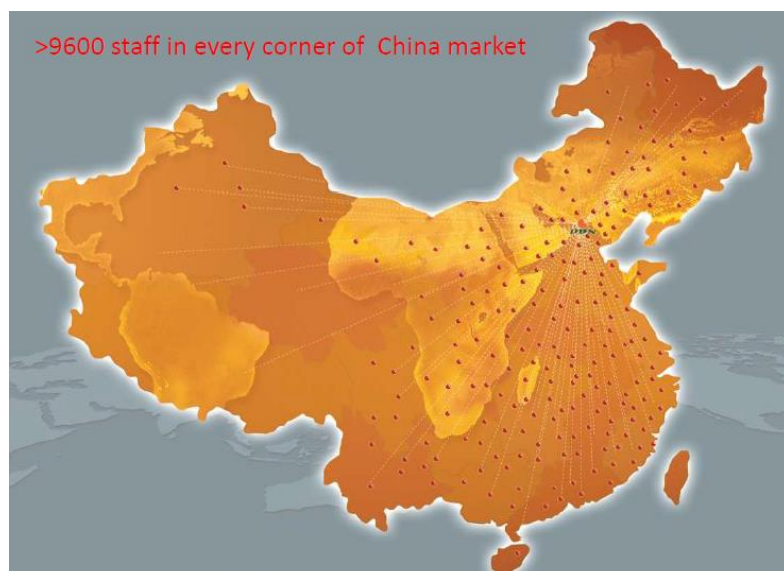


Figure 49 DBN service stations in China. (Zhao: 2012)

A major provider of embedded services is the Da Bei Nong group. The company's professional technology extension team constitutes of 9600 promotional staff working in more than 1'000 service stations and 500 specialised stores at county level. They promote products, provide annually over 500 trainings, and investigate on markets. (Zhao: 2012). Da Bei Nong does agricultural trials jointly with customers e.g. on new methods of feeding, crop cultivation and disease control in order to directly demonstrate the benefits to the clients. With this, Da Bei Nong aims at strengthening reliance of the customers, promotes its technologies and collects first hand data in order to convince more farmers. (Zhao: 2012)

Da Bei

Nong is just an example of a broad range of private input providers offering embedded services in China.

The high degree of private sector involvement regarding to input supply is probably best described by the fact that China is with an average of 340kg mineral fertiliser / ha among the countries with the highest fertiliser use of the world – most of these inputs are provided through private agencies (Barrett: 2012).

Learning: Da Bai Nong calls its extension workers "promotional staff". With its trainings and advice it has the goal to sell as much inputs as possible and to find new clients.

3.3.2. Nestle – An example of private sector investment into research and extension

Another example of private sector involvement in agricultural extension is Nestlé with its integrated coffee and dairy value chains. Alone in 2011, Nestlé trained 17'000 dairy farmers by its own agronomists, it distributed through the government line agencies 1000 milking machines free of charge, and initiated jointly with the Province Shuancheng the construction of a high tech dairy farming institute in Shuancheng to strengthen research and trainings on dairy production (Nestlé: 2012). Nestlé invested in total CHF 30 million for the construction of the institute and the various test and demonstration farms around. The institute was inaugurated in 2014 and celebrated as China's largest research institute for dairy products. It has the capacity to accommodate and teach 700 students on dairy production (NZZ: 2015). The overall goal of Nestlé is to modernise the Chinese dairy production (Nestlé: 2012), and – as a matter of course – to secure supply for the continuously growing dairy sector in which Nestlé plays a major role.¹⁴

Similar as for dairy produce, Nestlé trains coffee farmers in Yunnan Province since 1997 (Forbes: 201). Nestlé signed a memorandum of understanding with the provincial Government of Yunnan, in which both parties agreed on the establishment of an experiment and training centre for Nescafé. Therefore Nestlé invested totally \$16mio (WSJ: 2013). The institute has the capacity to train annually 5000 farmers, agronomists and coffee business professionals. The trainings and advice for farmers are free of charge. According to Nestlé, almost all national coffee companies are represented in Yunnan Province trying to source coffee. This allows farmers to sell their coffee to their preferred company (Forbes: 2014). Up to date 2000 farms joined the Nestlé programme, from which most sell to Nestlé. (Swissinfo: 2012).

¹⁴ Milk consumption in China has grown 5% annually since 2011. (Swissinfo: 2015)

Criticism on such large scale investments that serve only to private interests comes from diverse NGOs, e.g. from the Berne Declaration (2011): The organisation criticises Nestlé for intransparent investments into coffee production that strive to influence the countries' subsidy policies in favour of a coffee production as preferred by the company. Further, the Berne Declaration (2011) describes, how Nestlé creates oligopolies in coffee production areas on the basis of which it pressures on coffee prices. In total, Nestlé invests CHF 500 million into worldwide coffee production in the frame of the so called Nescafe Plan.

3.3.3. Syngenta / CropLife – Public Private Partnership

Syngenta jointly with CropLife, the association of BASF, Syngenta, Bayer, Monsanto, Dow, DuPont, FMC, and Sumitomo chemical established a public private partnership with the GoC. The local stewardship team assists the NATESC of Ministry of Agriculture (NATESC) with training projects on adequate use of pesticides in over 20 provinces. Since the program was launched in 2000, about 200 million farmers have received training on adequate management and use of distributed pesticides. In the frame of the programme, about 10,000 guides, 8,000 sets of personal protective equipment, and over 5,000 safe use posters were distributed annually.

Syngenta also collaborates with the Centre for Agrifood Quality & Safety, where it trained over 3000 food safety auditors. In collaboration with CropLife China, the company conducts integrated pest management trainings for suppliers of direct farm programmes.

Another public private collaboration between Syngenta, CropLife China and the NATESC, is an ongoing secure storage education project that is implemented by the NATESC. Up to date, 2500 farmers have received training. (Syngenta: 2013)

Learning: The driver of this public private partnership is the fear of negative health effects based on misuse of pesticides and correlated image damage for the input companies.

Learning: Finally, consumers' demand for safe food products and public concerns about environmental and human risks through misuse of agri-chemicals, led to increased private investments into RAS.

3.3.4. Farmers' Home – Public Private Partnership

A governmental pilot project has transferred the conventional public county ATEC into a community information centre called "Farmers' Home". It is run by government entities with the contribution of private input providers. In Farmers' Home farmers can purchase agricultural inputs, sold by private input providers. These inputs they wouldn't access otherwise. While shopping, visitors obtain information and extension services from trusted public extension workers, and receive information about real-time market prices. The Farmers' Home is considered a win-win situation for farmers, the ATEC as well as for the private input providers: "it enables the private sector to promote its products and the public sector to recoup some costs of running the centre and provide the community with information and products." (FAO: 2015b)

Learning: The farmers' house system puts the public extension workers in the role of advisors, while the private input suppliers act as sales agents. This combination has the potential to foster farmers access to neutral information and thus their informed decision making regarding to agricultural inputs.

3.3.5. Supermarket Value Chains

Driven by increased incomes in urban areas, growing urbanisation and state investment in food retail markets, the number of supermarkets involved in agricultural value chains has increased rapidly in the last twenty years (Michelson et al.: 2013): in mid-2000, supermarkets provided 30% of the urban food consumption with increasing tendency. The main supermarket actors are Walmart, Carrefour, RT-MART, and China Resources Enterprise; together they account for 36% of the country's total supermarket retail revenue in 2012. Since most of these supermarkets, respectively their clients, are concerned about food safety, in particular with regard to fresh vegetables and fruits, they increasingly

Learning: With the Direct Farm Programme, the GoC aims at bringing supermarkets closer to farmers with the goal of economic growth in rural areas and secured food supply in urban areas. The joint interest of farmers and supermarkets is to increase and secure agricultural production.

prioritise product traceability, thus bringing farms closer to wholesale markets.

Challenges for supermarkets to source produce directly from farmers remain. The country is immense and accordingly high are the transportation costs. Farm size is small with an average of 0.6 ha. Whereas in other countries, NGOs and farmer cooperation are able to organise bulk sales of products in order to limit transaction cost to supermarkets, in China such structures yet remained weak.

Supermarkets therefore organise so-called supply companies (direct farms) that are situated in production areas and responsible for the organisation of production, collection, storage and transportation of the produce. As mentioned in chapter 2, the GoC supports the establishment of direct farms with favourable credits, tax reductions, investments into infrastructure, and a direct farm label of the produce.

In the frame of direct farm programmes, farmers are asked to produce a certain product meeting criteria deemed acceptable by the supermarkets. In return, these farmers receive trainings on modern production technologies, initial investments such as seeds, or possibly credits. The supermarket then purchases the produce at a set price from the farmers.

In 2012, 17% of 463 townships had a direct farm that sold to domestic and international supermarkets. This is equal to around 1% of all townships. Typically, direct farms sell to a range of companies and not to one supermarket exclusively. (Michelson et al.: 2013)

Example: Walmart's operates Direct Farms for the supply of fresh vegetables, fruits, meats, grains and seafood. In the Walmart stores these products are labelled with a Walmart direct farm logo and sold in a special section. As of the end of 2011, Walmart's direct farm program was sourcing products from 81 direct farms in 23 provinces. (Michelson et al.: 2013)

3.4. Farmer cooperatives involved in extension

Since the late 1990s the number of farmer cooperatives has rapidly grown. The adoption of the Farmer Cooperative Law in 2007 has led to increased government support for the establishment and management of farmer professional cooperatives (Gadevska: 2011). As result of the adapted Law, the number of agricultural cooperatives reached almost one million in 2013 with 73 million of farmers participating; or in other words: 28.5% of the total national farmer households participated in at least one cooperative (Liang et al.: 2015).

Learning: The adoption of the law for cooperative was the starting point for the wide development of new generation farmer cooperatives.

In most cooperatives some lead farmers have substantial capacities in management and marketing. They are the main holder of income rights and decision power, whereas the common members are rarely involved in decision-making procedures. These lead farmers, Liang et al. (2015) calls them core elements of cooperatives, use their social networks to access inputs and marketing opportunities, which are then made available to all cooperative members. The potential of cooperatives to network among stakeholders, extension and input providers thus mainly depend on the social networks of the cooperatives' lead farmers. (Liang et al. (2015))

In general, farmer cooperatives play a major role when it comes to organising agriculture extension from the private sector. Cooperatives enables a reduction of transaction costs through bulk sales and contracts to access embedded services. Most of the above mentioned direct farm programs work through farmer cooperatives – the cooperative organises the production and bulking of the produce, whereas the direct farm through the supermarket organises all logistics and provides extension.

3.5. Civil society organisations involved in agricultural extension

By and large, the GoC maintains control over non-governmental organisations (NGOs) in China. Unlike in many other countries, Chinese NGOs are not only required to find a government or ruling party sponsor for registration, but also directly funded by the government. Accordingly, the term GONNGO (government-organised NGO) evolved. With the time, however, some GONNGOs have attained relative independence and do not anymore receive financial support from the government. There are no specific NGOs, which focus on agricultural extension per se, but extension activities are implicit in certain NGOs' programmes of

rural community development. Three examples of relevant Chinese NGOs are given below. (GFRAS: 2015)

The China Foundation for Poverty Alleviation (CFPA) is a GONNGO that was established in 1989. The foundation's programs include water and livestock management, terracing, rebuilding houses, rural education, rural technology training, as well as health and disaster relief. CFPA also operates some micro-finance projects.

The Amity Foundation was established in 1985 by Chinese Christians to promote education, social services, health and rural development in China. The NGO conducts a one-year training course for village health workers and it has implemented more than a dozen long-term large integrated rural development projects in at least eight poor provinces.

The Rural Women Knowing All Association is a NGO that was founded in 1993 to publish the magazine *Rural Women Knowing All*. The magazine focused on the prosperity and destiny of rural women in China. Complementary, the association has established three non-profit centres to spread basic literacy among rural women and to provide information on health, sanitation, agriculture and livestock. The magazine also runs mini-credit programmes for women in poor rural counties. (GFRAS: 2015)

Due to the small number and size of civil society organisations, their outreach is expected to be limited. However, society organisations set inclusiveness criteria and are thus more poverty-oriented than public and private RAS providers.

4. Pluralistic dimension and agricultural knowledge and innovation system

4.1. Pluralistic dimension

The following table shows the pluralistic dimension of the Chinese agricultural extension system. It becomes evident that the extension system is either financed by the government or the private sector, with farmers, donors and NGOs playing a minor role.

Regarding the delivery of the services, one observes the characterising interaction between public and private service providers: E.g. private input suppliers employ public extension workers in the frame of service contract, or the GoC supports private companies to interact with farmers through input and output markets, as well as extension (direct farms, dragon head).

The interest of private and public stakeholders that finance the extension system is about the same: the increase of agricultural production and productivity. This is reflected in the content of extension that is offered almost exclusively in combination with input supply for increased production.

Table 13: Pluralistic dimension of the country extension system (adapted from Anderson and Feder (2004))

Source of finances	Service Providers					
	Public sector	Private Sector			Civil Society	
		Input supplier	Processors / traders	Private RAS providers	NGO	Producer org.
Public	ATESCs / AESTF	Direct Farm programme / Supermarkets			Very few GONNGOs	
NGO/Donors/Multilaterals	UNDP AESTF Programme					
Private companies	Input suppliers using ATESCs as distributions channels Public Private Partnerships e.g. CropLife/Syngenta Stewardship The "Farmer House"	National and international private input suppliers	Supermarkets working with cooperatives Nestlé in Yunnan and Shuangcheng			
Producer organisations / Cooperatives		1 million agricultural cooperatives				

4.2. Agricultural knowledge and innovation system

The agricultural knowledge and innovation system bases on linkages between the diverse RAS stakeholders. In China, the major linkages are those between universities, research institutes, and the ATE system. These research-extension linkages function well for what concerns innovation for productivity increase of major crops, (Jia: 2015).

Regarding to vegetable and fruit production, or specialised seed for grain production, input and output market actors have a private interest in providing information and innovation to farmers. Examples are Nestlé that establishes research institutions and training centres, or supermarkets operating direct farms and transmitting knowledge and innovation to farmers. These linkages between private RAS actors focus on innovation for interests, which in the case of China often reflects also the government's interests to increase agricultural production.

Except the growing number of agricultural cooperatives, there is little to none networks among farmers to develop and share agricultural technologies.

5. Effectiveness of the RAS system

5.1. Outreach

The Chinese ATE system works in all counties and townships of China, irrespective of how remote they are. In 2006, there were 787,000 public extension workers employed in the ATE system, including 560,000 technicians, serving about 637,000 villages. That is, one extension staff per 0.81 villages or per 283 farm households (Hu: 2013).

Although there is no exact data about the private input providers operating throughout the country, the in average high use of chemicals let assume, that these input providers reach out to a large part of the country. Private agencies on their own don't reach scale when looking at the entire country. They work in selected counties of selected districts and are far from having an outreach as the public extension system have – however, they are to be seen as a complement to the public extension system in areas attractive to private investments.

On the other hand, civil society organisation involved in RAS are almost inexistent, whereas farmer cooperatives, working as economic entities operate throughout the productive areas of the country.

5.2. Economic effects

In general, there is almost no impact analysis on the RAS system, and the insufficiency of evaluation studies constrain policymakers and researchers to assess the system and make further development (Jia: 2015). All in all, China has considerably enhanced its agricultural production and productivity in the last decades. As a major indicator, one may mention the grain production that has doubled since 1978 and increased to over 600mio t in 2013, whereas in the same time, the total area planted with grains has decreased from 1.2 to 1.1 billion ha. Further, between 1980 and 2013 the following productivity achievements have been made (China Stat.: 2014):

- Cotton productivity has increased from 0.445 t/ha to 1.45 t/ha
- Cereal productivity has increased from 4.2t/ha (in 1991) to 5.9t/ha
- Peanut productivity has increased from 1.3t/ha to 3.6 t/ha
- Beetroot productivity has increased from 8.1t/ha to 50.9t/ha

There is no evidence about the contribution of the extension system to this productivity increase. Clear is that this time period was characterised by a fast development and increased availability of improved inputs, combined with one of the world's highest use of chemicals.

Effectiveness of the public extension system: Although the public extension system is still the major player in the extension landscape, and compared to other countries relatively well staffed, the traditional approach of providing technological support to farmers is considered non efficient and non-effective (Jia: 2015, UNDP: 2011). A major reason for that is seen in the fact that extension workers are government employees, also tasked to perform other duties in the villages, such as levying fees and taxes, as well as enforcing family planning policies (UNDP: 2011). The decentralisation of decision power and financing of extension to the county and township levels is another explanation for the weak performance of the system, which lost its former strong centralised commands. And last but not least, the ATE system lacks incentives for extension workers – except what concerns service delivery that is combined with input supply, or profit sharing (Jia et al.: 2015).

5.3. Social and ecological effects

The primary goal of agricultural extension from private as well as from public stakeholders is production increase based on an intensification of agriculture.

Jia et al. (2015) reveal that excessive use of chemical fertiliser in crop production is becoming pervasive and a severe ecological issue in China. They claim that Chinese farmers rely on their experience from the Green Revolution (1960–1980), which suggests that more fertiliser use always leads to higher crop yields. Further, they show that training and scientific guidance can lead to decreases in fertiliser applications of 20% in maize and rice production with no loss of yield. (Hu et al.: 2007, in Jia et al.: 2015). These trainings are found to be more effective if conducted by scientists as part of scientific studies, than if delivered in a routine fashion by extension agents. The public extension system is not considered an effective way to face the growing challenge of chemical overuse.

No studies were found that show the social effects of the RAS system, respectively its inclusiveness. Not being an issue neither of the public extension system, nor of private investments the author assumes that most RAS providers don't actively aim at reaching out to disadvantaged groups or women. However, the relatively high coverage of the public extension system and the fact that services are offered free increases access of RAS providers to farmers, also small scale farmers. Nevertheless, RAS that affirmatively seek to cater to disadvantaged groups or women seem to be left to the few NGOs, to some private social responsibility initiatives, or to larger poverty reduction programmes such as the above-described UNDP programme AESTF.

6. Conclusions: Learnings and innovations from the Chinese RAS system on how to reach large numbers of farmers with RAS

China has with 300 million of farmers the worlds' largest target group for extension. The country maintains also the worlds' largest public extension system. This public extension system has depicted several reforms in the last 30 years and became more and more a market-oriented system, in which the private sector plays an increasingly important role. The derived learning from these recent developments are in the following classified in 1) learning from the reform activities, 2) strategies to foster involvement of the private sector in extension, and 3) approaches to create incentives within the extension system.

Learning from the public ATE reforms

The high coverage of the public extension system that is available in every county and township of the country leads to a relatively high accessibility of extension services for farmers. Combined with a free of charge service delivery how it was the case in the 1980s, the public ATE system had the potential to reach out to poor farmers, too. This system was financed by the central government and had access to substantial funds to deliver high quality services (Hu: 2012). In the case of China, decentralisation as well as commercialisation of the services weakened the quality of the system over time. The learning or the reform is:

1. Decentralisation of extension administration without aligned decentralisation of government funds and the fiscal system, leads to a decrease of available funds for extension.
2. With the decentralisation of extension administration, the focus of local authorities shifted away from agricultural extension towards other administrative subjects.
3. Commercialisation of extension led to increased private interests compared to public interests. This weakened the delivery of extension in form of advisory and trainings, and thus weakened the quality of the extension system as a whole.

Government strategies to involve private sector in extension

To limit the financial burden of maintaining the large public RAS system, and to reach the set production goals aiming at food sovereignty, the GoC successfully fostered private sector involvement in extension. Thus, what one may learn from the Chinese extension system, are strategies to enhance private sector involvement in extension.

- 1.) The GoC allows the public ATESCs to contract with private input providers and to arrange a profit sharing between extension workers, companies and farmers.
- 2.) The GoC fosters collaboration between public ATESCS and input suppliers through inviting private sector to sell their products in and around the public extension offices: e.g. the farmers' house initiative. In return, input suppliers pay part of the extension office, whereas public extension workers provide "neutral" advice to farmers.
- 3.) The GoC supports companies via the direct farms and dragon head company programme to contract with farmer cooperatives with regard to input provision, extension provision, and output sales. The GoC operates as an initial networking agent that facilitates linkages.
- 4.) The GoC formed the legal framework for farmer cooperatives in a way it allows farmer cooperatives to contract with private sector agencies regarding input, outputs and extension. Based on this legal framework, the number of farmer cooperatives increased significantly, and business relationships became possible.

Strategies to create incentives within the extension system

When employing extension workers, both, the private and the public actors strive to introduce an incentive system for extension workers. Both assume –based on their experiences - that incentives for extension workers increase the quality of the services. The private and public institutions applied the following strategies to create incentives within the extension system:

1. Benefit sharing between farmers and public/private extension workers if production increases through collaboration between the extension worker and farmers. (e.g. private/public input supply / Da Bei Nong)
2. Fixed minimum profits for farmers in the contracts. Extension workers are made responsible that farmers reach the minimum profit – everything what is above, will be shared with extension workers (e.g. AESTF).
3. Evaluation of the extension delivery and related bonus payments. Such systems are considered too expensive to be maintained in the long run; e.g. public pilot reform projects for inclusive ATE system.
4. The opportunity of extension workers to keep their job depends on how well he/she contributes to increased production (e.g. Nestlé coffee production / direct farms). As a result, the company employs only extension workers most motivated and capable to support farmers in increasing their production.

Objectives for social and ecological effects of RAS, respective are necessary

The Chinese RAS system including both, public and private stakeholders, primarily aim at a productivity increase and does not foresee specific poverty reduction goals or activities to mitigate negative ecological effects of increased use of chemical. Without such goals little assessment on ecological and social effects will be done, and the chance that RAS will be ecologically sustainable and poverty oriented remains small or at least unassessed.

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Analysis of country RAS systems 2: The experiences of India's agricultural extension system in reaching a large number of farmers with rural advisory services

A study to capitalise experiences in SDC financed rural advisory services programmes in Asian countries



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Summary

This desk study analyses the Indian rural advisory service (RAS) system with the goal to derive learning from its successes and challenges in reaching millions of farmers in a poverty oriented, ecological, and sustainable way. The study provides a description of the Indian RAS system, and analyses a range of private and civil society RAS providers, which are representative for ongoing RAS initiatives throughout the country.

Cornerstones of the Indian RAS system

- 119 million farmers with in average 1.23 hectare land area
- Pluralistic RAS system that includes public RAS (in average one extensionist / 1200 farmers), a multitude of private extension schemes, 230 million members of agricultural cooperatives, and one million NGOs.
- Public RAS reaches 6% of the more than 119 million Indian farmers (Ghimire: 2014)
- In 2005, only 40% of farmers accessed agricultural information from any source, while progressive farmers and input suppliers are the major information source for small scale farmers. (Adhiguru et al. 2009)

Key learnings from the Indian RAS system

Capacity building

- The state institution MANAGE trains and accreditates private input dealers to complement the government extension system. This increases the outreach of RAS.
- Progressive farmers are the most accessed source of information for poor farmers. By building their capacities the government could, but yet does not further increase the outreach of the extension system.

Mobile applications and mass media

- Mobile applications can increase the outreach of RAS also to remote areas. Mobile applications are best accessible to poor farmers if they include voice messages.
- Radio programmes offering listeners to put questions are more appreciated then one side information provision. They increase the outreach of RAS in a relatively cheap manner.

Functions of the government

- The Agricultural Technology Management Agency (ATMA) reflects a key role of the government: It coordinates diverse RAS activities and facilitates linkages between research, extension, private sector, NGOs, and farmers in order to increase scale of private and public RAS provision.
- Monitoring and impact assessment are key functions of the government to improve effectiveness and inclusiveness of a (public) RAS system.
- The Government of India was able to increase inclusiveness of public RAS delivery by issuing respective guidelines, e.g. for participation of women in public trainings.
- It is the role of the government to provide a regulatory framework to mitigate environmental and social risks of private RAS delivery, in particular for contract farming and embedded services.
- Locally based research-extension-farmer meetings are a mechanism to fed farmer's requirements into research activities. If research is publicly financed, it is a role of the government to facilitate such meetings.

Functions of the private sector and civil society

- Both private agencies and civil society organisations complement public RAS delivery. They offer multifunctional services, which is considered an economically viable reaction to farmers' demand.
- NGOs have two functions: they provide RAS to poor farmers in remote areas without private investments, and they pilot and apply innovative, inclusive RAS approaches. This is possible due to a) their size, b) their number (one million Indian NGOs), and c) their collaboration with a range of actors and funding sources.

Major challenges

- Lack of qualified public extensionists that are ready to work in remote areas
- Cove tailing of national research and extension plan with farmers' requirements is challenging and yet a limiting factor for effective public extension
- Public extension workers have to cover a range of services, not only for extension. Depending on state priorities, public agricultural extension delivery is neglected.
- Private investments complement the public extension system and increase scale of RAS delivery. In order to mitigate related ecological and social risks a respective policy framework and monitoring mechanism must be in place and implemented.

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Abbreviations

ACAPS	Private Agri-Clinics and Agri-Business Centres
ATMA	Agricultural Technology Management Agency
CAPEX	Capitalisation of Experiences
DASP	Diversified Agricultural Support Project
DoA	Department of Agriculture
FYP	Five Year Plan
Gol	Government of India
ICAR	Council of Agricultural Research
KVK	Krishi Vigyan Kendras
MoA	Ministry of Agriculture
MANAGE	National Institute of Agriculture Extension Management
NATP	National Agricultural Technology Project
NGO	Non-Governmental Organisation

1. Agricultural context of India

With a population of about 1.1 billion persons, India is expected to overtake China as the world's most populous country by 2030. India is the second fastest growing economy in the world, it has the world's second largest arable land base (after the U.S.), and the second largest irrigated area (after China). (Gurung: 2008) However, the country faces an increasing challenge to ensure that growth is sustainable and inclusive (FYP: 2012). Despite having a comparative advantage in producing agro-food products, India's share of international trade in agro-food products remains relatively small at 1.5 percent. (Gurung: 2008)

Regarding rural economy, India's population continues depending on agriculture as its primary source of livelihood. 83 percent of farmers operate holdings of less than two hectares, and the average holding size is 1.23 hectares. Land holdings are often fragmented and unirrigated. A large share of the population is entirely landless, although agriculture is their main source of livelihood. Landless have inadequate financial resources to purchase land and often depend on leasing in small plots on insecure terms, sometimes only for one season. Landless and poor small holders are unable to take advantage of the economies of scale, and to invest in inputs such as irrigation, quality seeds or machinery. They have limited access to formal credit. These farmers are yet often ignored by extension agencies, thus seldom receive information on new technologies or training in skill-intensive agricultural practices (FYP: 2012).

India also faces challenges of exclusion and inequitable access due to multiple deprivations of class, caste and gender – all of which require innovative approaches and solutions, and looking beyond the conventional way of doing things (FYP: 2012). Agricultural extension is key for the future development of the agricultural sector: today one-fourth of the yield gap for maize is due to knowledge deficits (Ferroni: 2011).

In the last few years, India have witnessed the diversification of agriculture towards high value commodities such as fruits, vegetables and livestock products at a fast pace. High value commodities account for a large share of the total value of agricultural production in a number of districts in India. Further, urbanisation has resulted in the rapid expansion of supermarkets retailing agricultural goods. Raising demand for food items and relatively slower growth of supply has resulted in frequent spikes in food shortages. "The need for a second green revolution is being recognised more than ever before" (Government of India, 2011).

This growing pressure on agricultural productivity to increase India's food security led to an increased recognition of the importance of agricultural extension. Not only the government of India, which is still the main service provider of the country, but also private sector and civil society, such as NGOs and non-profit organisations have a growing interest to involve in agricultural extension. The present Indian agricultural extension system is one of the largest extension system in the world, highly pluralistic and dynamic.

2. Agricultural subsidies, Policies and Programmes of the Government of India

This chapter provides an overview of the policies and programmes that characterise the institutional framework of extension activities in India. They tackle the public as well as the private extension service provision.

2.1. India's Agricultural Policies

After independence, India pursued a policy of food self-sufficiency in rice and wheat. Trade was strictly regulated through high tariff rates and quota restrictions. During the 1960s and 1970s, high yielding rice and wheat varieties were adopted. At the same time, India expanded irrigated areas, promoted increased use of chemical fertilisers and pesticides, and improved access to institutional credits. Together, these initiatives increased agricultural production and made India self-sufficient in national food grain production.

Production gains from Green Revolution technologies continued through the mid-1980s and then decreased. During the 1980s, the input subsidies that the Government of India has put in place also began to strain government budgets. Except for the removal of export controls, the series of reforms since 1991 did not lead to fundamental changes in India's agricultural sector. The main policy goals remain:

- to attain food self-sufficiency,
- to ensure remunerative prices to farmers,
- to maintain stable prices for consumers.

To meet these goals, India developed a number of policy instruments, such as minimum support prices¹⁵, food subsidies for consumers, regulated trade, and input subsidies for producers. (Gurung: 2008)

2.2. India's five-year plans

India's 10th to 12th five-year plans (2002-2017) emphasize innovation in agricultural extension as key to increase agricultural growth by reducing yield gaps in agriculture. Accordingly, the five-year plans stress the need to strengthen agricultural extension in India (Glendenning: 2010). Further, the 12th five-year plan recognises that innovation is the engine for a national growth that benefit also the poor, and has declared 2010 - 2020 as the 'Decade of Innovation', which applies also for agriculture (FYP: 2012).

2.3. Agricultural extension reform initiatives

Since 1990, a range of agricultural extension reforms were initiated to improve the extension system that was considered inefficient and ineffective. The reforms focused on supply side interventions, which can be summarised as follows (Raabe: 2008):

1. **Decentralisation reform programmes** aimed at putting into action the 73rd Constitutional Amendment, which foresees a transfer of fiscal and administrative decision-making authority from the central state to the local level. Two exemplary decentralisation reform programmes are the Diversified Agricultural Support Project (DASP) and the National Agricultural Technology Project (NATP) – both were initially supported by the World Bank. The overall goal was to render the public extension system more demand driven by decentralising and finances and planning of extension activities:

¹⁵ According to the WTO, food subsidy provided by the Indian government for paddy during 2010-11 worked out to be around 6 per cent of the total output of the commodity in value terms. Source: http://economictimes.indiatimes.com/articleshow/42288827.cms?utm_source=contentofinterest&utm_medium=text&utm_campaign=cppst

- **The NATP programme** encouraged involvement of private sector through competitive grants programmes supporting private RAS activities. Under NATP, **the Agricultural Technology Management Agency (ATMA)** was established to coordinate extension and research stakeholders in order to improve research - extension - farmer linkages. (Raabe: 2008). ATMA got considerably diluted later during 2005-2010. But again got into track from 2010 with new guidelines. It is mostly if not 100% public financed. Since 2012, the Government has started a new mission called National Mission on Agricultural Extension and Technology (NMAET) and it has a Sub-Mission on Agricultural Extension through which ATMA is funded. (Sulaiman: 2015)
 - In comparison, **the DASP scheme** planned to encourage private-sector participation by reducing the role of the government as input supply provider and by facilitating the leasing or sale of government facilities/farms to private-sector firms. Further, the reform aimed at a phasing out government subsidies for inputs and other services, which allowed for better business conditions for the private sector. Both initiatives aimed at stimulating a vertical integration of smallholder agriculture with input suppliers and agro-processors. To this end, the programme facilitated the availability of credits for smallholders. (Sulaiman: 2015)
2. **Support private sector involvement in agricultural extension.** Both the DASP and NATP initiatives emphasized the importance of private-sector involvement in the area of technology development and technology dissemination. Recent government programmes also work towards more private sector participation. However, yet most of these government initiatives focus on public sector only. (Sulaiman: 2015)
 3. **Support participation of civil society:** The DASP and NATP schemes planned to institutionalise partnerships between public institutions and civil society in order to enhance the knowledge base and thus the quality of extension services. This was initiated mainly through contracting-out arrangements. (Raabe: 2008). Same as with private sector involvement, these linkages remained relatively limited (Sulaiman: 2015).
Capacity building: The DASP scheme supported state agricultural universities, the State Institute for Rural Development, and the National Institute of Agriculture Extension Management, called MANAGE, in providing training of extension workers. These institutions offer professional skill training of extension staff across the line departments and the agricultural science centres (Krishi Vigyan Kendras).
 4. The NATP sought to improve the intensity, efficiency, and effectiveness of the public agricultural research system by strengthening the capacity of scientists to develop new, productivity-improving technologies that improve the performance of production systems. To this end, the NATP sponsored competitive grant programmes for collaborative agro-ecological research. (Raabe: 2008)

Although these reform initiatives have been piloted and scaled up across the country, implementation bottlenecks have emerged because of limited qualified manpower, insufficient technical and financial support, and a weak framework and coordination for public-private partnerships (Ferroni: 2011). Recognising these bottlenecks, the Government has considerably increased ATMA's funding over the last two years (Sulaiman: 2015).

3. Stakeholders of the country RAS system

This chapter analyses the stakeholders of the Indian country RAS system. It starts with a description of the public extension system, then gives an overview of selected private agencies, and concludes with a discussion about the involvement of civil society organisations. The tables below provide a) an overview of the major stakeholders and their interactions, and b) information about each stakeholder's relevance regarding to information provision to farmers.

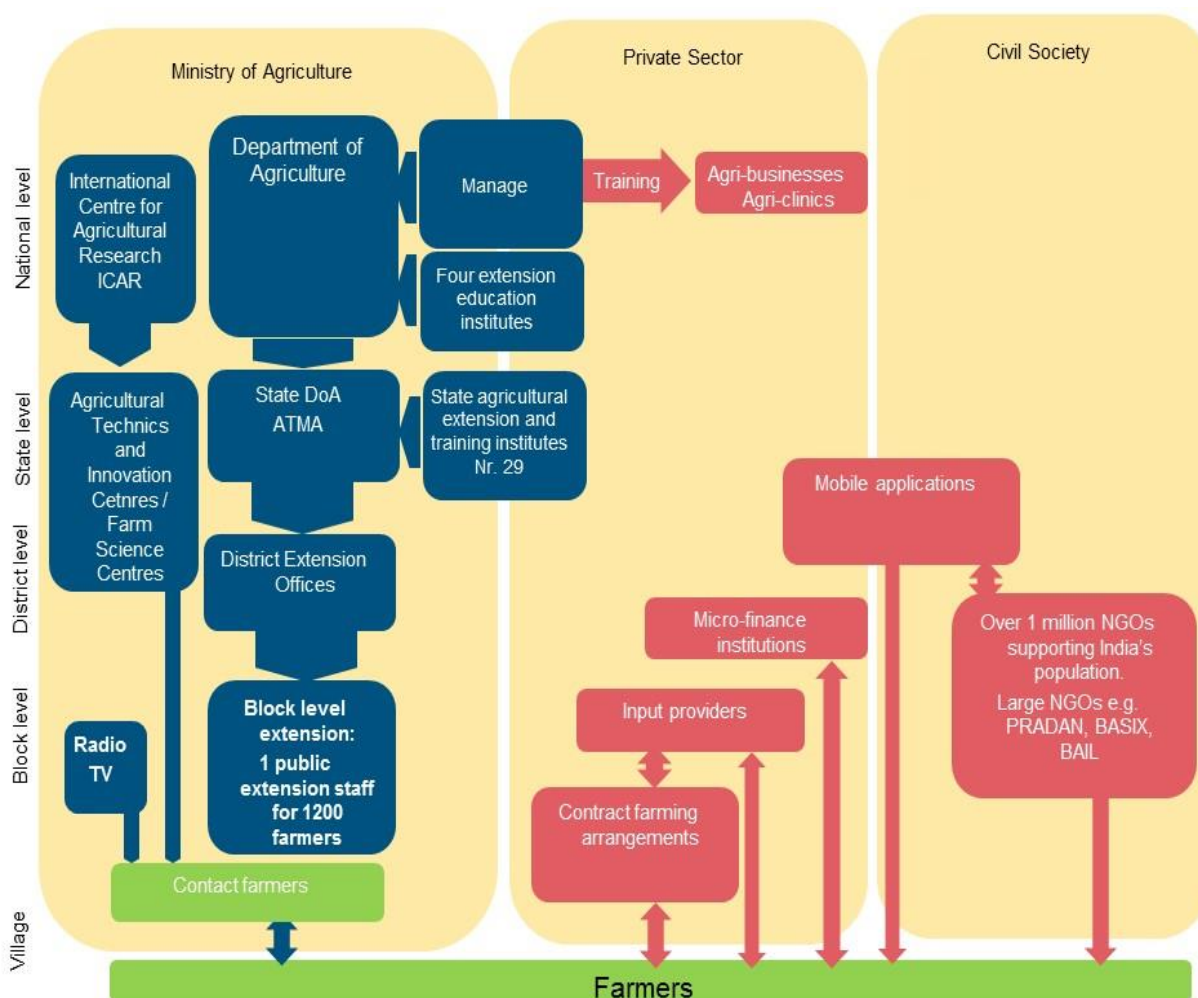


Figure 50: Overview of the country RAS system: blue = public institutions // green = farmers // red = private agencies and civil society organisations // yellow = categories of actors (Ministry of Agriculture/private sector/civil society) (author's own figure).

The following table bases on 51,770 farm household samples and indicates the relevance of the diverse stakeholders regarding to information transfer to farmers:

- The table shows that only 40% of the farmers access agricultural information from any source. 60% of the assessed farmers indicated that they did not access any agricultural information at all.
- The table shows that small scale farmers basically access less information than large scale farmers (38.2% compared to 53.6%)
- The relevance of diverse information source is as follows:
 - Main source of information is **mass media**: About 30% of farmers access agricultural information from mass media (TV, newspaper, radio)
 - Second important source of information are **private sector agencies** (input and output dealers, credit institutions), which provide information to 17.4% of assessed farmers. They are relatively more relevant for large scale farmers than for small scale farmers.

3. **Experienced / progressive farmers** provide information to 16.8% of assessed farmers, and are the most important source of information for small scale farmers.
4. **Public extension workers** provide information to 8.6% of assessed farmers.
5. **Civil society organisations (cooperatives and NGOs)** cater to 4.2% of farmers.

Table 14 Access to information from different sources across farm-sizes in India (percent). (Adhiguru et al. (2009), based on 51,770 samples assessed by the National Sample Survey Organisation (NSSO (2005).)

Sources	Farm Size			
	Small	Medium	Large	All India
Any source	38.2	51	53.6	40.5
Other progressive farmers	16	20.2	20.8	16.8
Input dealers	12.6	14.8	18.3	13.2
Radio	12.4	16.4	16.8	13.1
TV	7.7	15.3	22.4	9.4
Newspaper	6	10.3	15.9	7
Extension workers	4.8	9.8	12.4	5.8
Primary cooperative societies	3	6.2	8	3.6
Output buyers/food processors	2.1	3.6	3.4	2.3
Government demonstrations	1.7	3.4	4.6	2.1
Village fairs	2	2.4	2.38	2
Credit agencies	1.6	2.8	3.4	1.9
Others	1.6	2.1	2	1.7
Participation in training programs	0.7	1.9	2.3	0.9
Krishi Vigyan Kendras	0.6	1	1.7	0.7
Para-technicians/private agencies/NGOs	0.5	1	0.8	0.6
Farmers' study tours	0.2	0.3	0.6	0.2

3.1. The public extension system

The central department of agriculture was established after the Orissa famine in 1866. In 1905, the government of India passed a legislative order to have an agriculture director in each state to advice farmers on how to improve agricultural practices. As a planned effort during the early post-independence period, India began a community development program in 1952, followed by the national extension service in 1953. These programs educated farmers to take up improved farming methods across the country (Ghimire: 2014). Up to the 1960s and 70s, the Department of Agriculture was the main agricultural extension agency. In the early 1990s, national support has dried out and states have been left to fund their extension machinery, which has led to a considerable weakening of public sector extension system (Sulaiman: 2012). Instead, the last three decades have witnessed an increasing involvement of private sector, NGOs, community based organisations, as well as modern communication technologies.

Despite its abundant network for agricultural extension reaching from the MoA at the central level to KVKs at the local level, the present public extension system in India serves only 6% of the more than 119 million of farmers in India (Ghimire: 2014; Ferroni & Zhou: 2011).

3.1.1. Public extension providers

Today, public extension is implemented at state level through **the line agencies of the Department of Agriculture (DoA)**. Each state organises extension differently with varying programme foci (Glendenning: 2010). The majority of the state DoA operate at the district and block levels (Sulaiman: 2012). In terms of number of staff, public extension by the state DoA dominate extension provision in India. (Glendenning: 2010) In 2011, the DoA was faced with a lack of staff ready to work as extensionists: "Data from 27 states indicate that 36% of the posts are vacant in the DoA. Out of the 143,863 positions in DoA, 52,575 posts are vacant, and 91,288 posts are occupied" (Chandragowda, 2011 in Sulaiman: 2012). Latest figures on vacancies are not available (Sulaiman: 2015).

The resulting ratio of staff to farmers varies widely across the country (1:300 in Kerala, 1:2,000 in Rajasthan) as does the capacity of frontline extension staff: only 20 percent of the staff has graduated from university (Sulaiman and Holt 2002). A latest study indicates that in average, one public extensionists caters 1200 farmers (Sulaiman: 2015). Because of low operational budgets (85-97% of expenditures going to salaries), field visits took place irregularly. This is expected to change in close future with several initiatives putting resources into extension (e.g. ATMA) (Sulaiman: 2015)

Generally, public extensionists focus on the implementation of government programmes linked to subsidised inputs. (Sulaiman: 2012)

To reach out to broader populations, the MoA launched the **Mass Media Support to Agriculture Extension “Kisan Vani”** in 2004. The purpose of the programme is to inform farmers about daily market rates, weather forecasts, and specific farm activities in their area. India Radio (AIR) broadcasts the programme daily in the morning, noon, and evening. The programme has been complemented with the phone-in-programmes “Ask the Expert”, which rendered radio more interactive and locally relevant. Other programmes are broadcasted through television. Examples are:

- “Doordarshan,” the government television channel, currently reaches 92 percent of the Indian population and broadcasts information on agriculture.
- The DD National programme telecasts the 30-minute agricultural programme *Krishi Darshan*, in Hindi, six days a week. It covers various aspects of agriculture and related activities such as horticulture, animal husbandry, dairy and rural life.
- *Kendra’s produce* is a 30-minute, locally relevant programme in local language, and broadcast 5 days a week. (Sulaiman: 2012)

Also in 2004, the MoA initiated the “Kisan Call Centre” (KCC) scheme to provide information to farmers in their local language. Farmers could call the nation-wide toll-free number of 1800-180-1551, where the calls were picked up by agricultural graduates in 25 KCCs located across the country. From 2004 to 2010, almost 5 million calls have reached the KCCs. (Chandragowda, 2010, in Sulaiman 2012), but no assessment have been done about the effects of these calls. Currently, lack of adequate experience of fresh graduates and difficulties in contacting concerned experts staff considerable constrain the quality of KCCs (Sulaiman et al 2011a).

The Agricultural Technology Management Agency (ATMA) is a result of the above-mentioned decentralisation reform in public extension. The ATMA is a district coordinating agency entrusted with the role to bring together different agencies involved in agricultural extension at district level. The district ATMA includes members of the line departments, KVKs, farmers and NGOs. In consultation with farmers, the ATMA identifies local research and extension priorities and develops local problem-solving plans. After the World Bank phased out its contributions to ATMA in 2005-06, government funds were specifically allocated for ATMA to implement activities. 90% of ATMA is funded by the Central Government, 10% by the states.

Learning: ATMA reflects a new role of public extension institutions: It coordinates diverse RAS activities and facilitates linkages between research, extension, private sector, NGOs and farmers. To reach high effectiveness, ATMA needed strong guidance from the Government of India and donors.

Today, ATMA is operational in 603 districts (out of 676 Indian districts in 2014) in 28 states of India. Provision of separate staff for ATMA has brought improved attention to ATMA, which is now expected to strengthen the Indian extension system (Sulaiman: 2012).

The Indian Council for Agricultural Research (ICAR) is operational under the MoA and coordinates, guides, and manages research and education in agriculture. ICAR initiated two major public service initiatives:

- **Krishi Vigyan Kendras (Farm Science Centre)** are the institutionalised link between research and extension. They operate at district level and are funded by the ICAR, universities, NGOs and the state line department of agriculture. Their mandate includes promotion of locally adapted technologies through on-farm trials, demonstrations and training. In 2015, 641 KVKs are

operational throughout the country, and the number is expected to increase to 751 (AESA: 2015). The effectiveness of KVKs vary considerably. Accordingly, Gowda (2012) describes KVKs as highly effective, whereas Sulaiman (2012) looks at them more sceptical: “The effective reach of KVKs in most cases is marginal mainly due to its inadequate linkages with other development agencies. Staff shortage, limited operational funding and a narrow mandate has also led to sub-optimal utilisation of KVKs”

- **Agricultural Technology and Information Centres (ATICs)** are other institutions founded by ICAR with the purpose to link research with extensionists. ATICs are considered a window to the state agricultural universities to present technologies, research, and advice. Jointly with the state agricultural universities, ATICs support the state DoA with technological backstopping and advisory support.

Effects of the public extension system: In spite of the growing recognition of the importance of agricultural extension and increased investments into India government extension programs, extension services of the national agricultural research system have a very limited outreach: 60 percent of farmers did not access any source of information on modern technology in 2003. Of those having sourced information, over 16 % received it from nearby progressive farmers, 13% from input dealers and 13% through radio. In general, advice was often perceived as of low practical relevance. (Glendenning: 2010).

3.1.2. Public capacity building institutions

Capacity building for extension workers is organised at state level, which is comparable with national level in other Asian countries (31 out of 36 Indian states have between one and almost 200 million habitants):

- The **National Institute for Agricultural Extension Management (MANAGE)** supports capacity development of extension professionals at the national level,
- **four Extension Education Institutes** are operational at the regional level,
- every state has a **State Agricultural Management Extension and Training Institute (SAMETI)**, whose mandate is to strengthen the capacity of mid-level and frontline extension staff (Glendenning: 2010).

Senior and mid-level extension staff are trained by the National Institute of Agricultural Extension Management (MANAGE, and its four Extension Education Institutes (EEIs). Information from the district and block extension staff to the village levels is transmitted through contact farmers or para-extension workers (Glendenning: 2010).

Effects: The quality of service provision by these contract farmers / farmer friends and para-extension workers has not been assessed. It is thus not clear, what services they offer and how motivated they are. (Sulaiman: 2015)

Learning: The (state) government recognises the importance of capacity building: Capacity building for extension workers of the public and private sector is institutionalised and financed with public finances. The system is organised at state level.

Learning: Capacity building of contact farmers is not institutionalised, although contact farmers are considered a key link in the agricultural knowledge

3.2. Private actors in the Indian extension system

Private sector involvement in extension is advancing rapidly. A range of companies are involved in agricultural extension, including seed and input companies, distributors and agro-dealers, food processors and retailers, and mobile operators. The Government of India recognises this growing importance of private extension providers and supports several programmes to enhance private sector involvement in agricultural extension. As result, embedded services, public private partnerships and contract farming arrangements are increasingly important vehicles for agricultural extension (Ferroni et al.: 2011).

3.2.1. Public initiatives to foster private sector involvement in agricultural extension

Private Agri-Clinics and Agri-Business Centres (ACABCs) provide embedded services to farmers through technically trained agricultural graduates at the village level, known as “agripreneurs.” ACABCs are privately managed and operate in various parts of the country with the goal:

- to supplement the efforts of government extension system;
- to provide expert services and advice to farmers
- to provide inputs and farm equipment to farmers
- to provide gainful employment to agricultural graduates in the agricultural sector.

To support the establishment of such private ACABC, the National Bank for Agriculture and Rural Development and the public institution MANAGE offer a two-month training in agri-business development for graduates of the agricultural university. The training takes place in extension institutions of the public or private sector. The entire training fee is borne by the Government of India. After the training, the graduates are expected to set up Agri-Clinics and Agri-Business Centres based on bank finances, whereas the central government provides 25 percent of the cost as a subsidy. In addition, the states have adopted the approach and add their own additional subsidies for Agri-Clinic implementation. (Manage: 2014; FYP: 2012)

Learning: Affirmative government action is needed, if private sector should complement the public extension system in an ecological and poverty-oriented way.

Outreach: “Until 2012, 27,752 graduates have been trained leading to the establishment of 9863 ACABCs in various parts of the country” (ACABC: 2012 in Sulaiman: 2012). Farmers who have availed services from these centres have benefited by way of increased productivity. However, graduates still face problems to availing bank finances, such as high rates of interest, limited interest of the bank to invest, and the need for collaterals (Sulaiman: 2012).

Diploma course on agricultural extension for input dealers:

MANAGE has started a diploma course for private input providers. The diploma covers four modules: agronomy, extension and communication methods, individual and business development, and laws related to seeds, fertilisers, agrochemicals and consumer protection. A list of trained input dealers by district is available on the MANAGE website. The Diploma Course on Agricultural Extension for input dealers is imparted through distance education mode with the goal to qualify private, local agricultural input dealer to provide advice on local crop production and protection technologies (Manage, 2012; Ferroni et al. (2011)).

Learning: In order to increase the outreach of the extension system, a state institution accredits and trains private input dealers to complement the government extension system.

Outreach: The programme is currently implemented in Andhra Pradesh, Tamil Nadu and Maharashtra. So far, 2164 input dealers have been trained and certified under this scheme, and the Government is trying to increase this number (MANAGE, 2012).

3.2.2. Embedded services

There are an estimated 282,000 input dealers in India. They have every interest to offer quality services to their farmer clients. Although MANAGE offers the above mentioned diploma course for input dealers, so far, only a minor fraction of all input dealers have been trained (Ferroni et al.: 2011).

Another way for input dealers to get training is to collaborate with one of the large private input sales and extension provision schemes. There is a number of such schemes existing in India today, e.g.:

- **The Hariyali Kisaan Bazaar** is run by the DCM Shriram Consolidated Ltd. and offers a comprehensive package of agri-inputs, extension, credit, and produce, fuel, mobile phones – all under one roof. *Hariyali Kisaan Bazaar* operates more than marketing 300 rural retail stores across eight states following the model depicted in Figure 51. Each rural store caters to 15,000 or more farmers (Ferroni et al.: 2011). This system collapsed in 2013-14 because DCM Group shut the operations completely due mainly due to less footfall and huge losses. (Sulaiman: 2015)
- *Tata Kisan Sansar* centres by Tata Chemicals Ltd. offers extension such as soil testing, remote diagnostics, house brands for seeds, cattle feed, pesticides and sprayers. There are currently 32 hubs catering to 681 *Tata Kisan Sansars* covering approximately 2.7 million farmers in some 22,000 villages across 88 districts in different parts of the country (Ferroni et al.: 2011).
- *Godrej Agrovet* is a chain of rural outlets offering agricultural equipment, technical services, soil and water testing, veterinary, financial services, and pharmaceuticals. The Agrovet chain employs about 1600 workers and operates 27 service centres across the country, each serving some 20,000 farmers. (Afaqs: 2015).

Learning: Most of the private input and service providers offer multifunctional services. This is an economically viable reaction to farmers' demand.

Learning: Private initiatives operate as long as they are economically viable and else withdraw their activities: a number of large private initiatives already withdraw from extension.

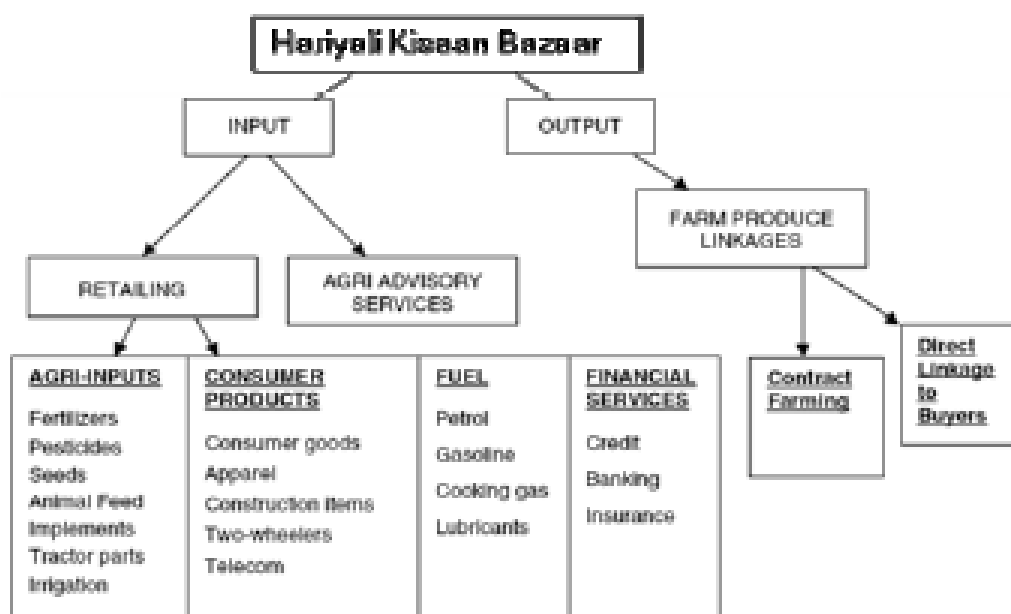


Figure 51: Hariyali Business Model (Bell et al. (2007) in Ferroni et al. (2011))

Effects: These large input providers offer comprehensive services including inputs, credits and marketing activities. Glendenning et al. (2010) states that the impact of these services is yet widely unassessed. Sulaiman et al. (2005) analysed such schemes with focus on *Mahindra Krishi Vihar* and offer the following results:

- farmers are willing to pay for an integrated set of services that gives them access to quality inputs;
- farmers working with a private extension service provider can substantially increase their yields and farm income;
- the increases are attributable to field-specific technical advice on application of the right inputs at the right stage of crop growth;
- *Mahindra Krishi Vihar* has been able to develop a sustainable and profitable business selling extension services related to both production technology and linkages to markets;
- the apparent success of the *Mahindra Krishi Vihar* model is in some measure due its flexible 'learning by doing' approach; and
- a private extension approach of this type focuses mainly on medium and larger-scale farmers.
- Despite good experiences, eventually the model failed and the company withdrew from extension provision. (Sulaiman et al.: 2005).

While writing the study at hand it became evident that the number of such private schemes is highly fluctuating: they are established fast, but also withdraw from their activities in case they don't remain economically viable. That's why the study can't provide figures about the current outreach.

3.2.3. Public private partnerships (PPP)

Although public private partnerships for extension are abound, literature and studies about their effects are still limited. Ferroni & Zhou (2011) provide the following example:

The agro-chemical business Danuka group has worked since 2001 with the Government of Madhya Pradesh and with MANAGE. The topics for the PPP include soil testing, seed treatment, quality seed provision, diagnosis of pests and diseases, safe and effective crop protection, farmer organisation and market research. Through this partnership agricultural extension has been largely privatised in the region. Productivity has been increased to the point that the national productivity council awarded the district with the best productivity award in 2004 (Ferroni & Zhou: 2011).

Learning: Public private partnerships in extension in India led to a privatisation of extension. The role of the state is financing research and mandating private service providers.

Another example are the 100 PPPs projects that have been launched so far in the frame of the national Small Business Innovative Research Initiative and the Biotechnology Industry Partnership Programme. These PPPs resulted in six Indian patents and the development of 16 technologies in agriculture such as GM crops including insect-resistant chickpea, rice, or drought-tolerant groundnut, sunflower and mustard (FYP: 2012).

3.2.4. Contract farming schemes

The role of contract farming is growing in Indian agriculture. There are only fragmented information about contract farming arrangement and it is not possible to indicate the total land area under contract schemes. However, contract farming is seen as the major way how aggregators and processors of products impart extension advice, and its importance is growing, in particular for middle and large scale farmers (Ferroni et al.: 2011). Experience of these arrangements has been generally mixed. Sinh (2005) states that "in order to make contract farming an effective development tool, strong mechanisms must be in place to monitor contracts and ensure that growers — the more vulnerable partners — are not exploited".

Learning: Contract farming is a promising scheme to deliver effective extension to farmer in an economically viable way. To avoid negative effects of contracts on poor farmers, a policy framework to mitigate ecological and social risks, as well as a monitoring mechanism must be in place. It is in the public interest (GoI, donor) to support such framework.

The literature on contract farming is large and varies in its opinions. An IFPRI study on contract farming for poultry production in Andhra Pradesh claims that

- contract production is more efficient than non-contract production
- the efficiency surplus is largely appropriated by the processor
- contract growers gain from contracting not in terms of higher returns but in terms of lower risk and higher expected returns.
- contract farming is useful institutional arrangement for the supply of credit, insurance and technology to farmers
- contract growers chosen by the processor have poor prospects compared to independent growers.
- Thanks to improved production inputs and access to credits (offered by the contract company), these relatively poor contract growers achieve incomes comparable to that of independent growers (Ramaswami et al.: 2006).

The following table provides an overview of some exemplary contract farming arrangements (Ferroni and Zhou: 2011)

Table 15): Overview of selected contract farming schemes (adapted from Ferroni and Zhou: 2011).

Company	Outreach	Company's offer	Farmers' offer
Hindustan Lever Ltd., Rallis and ICICI	Madhya Pradesh, 2000 suppliers (Barth (2006))	– Rallis: provides agri-inputs and know-how for free – ICICI: provides credit to farmers, weather index based insurance product – HLL: assures output markets and a floor price – Organisation of produce bulking	Defined quantity of wheat at a predefined price
PepsiCo	Nine states, 30,000 farmers in 2012 ¹⁶	– technology transfer through trained extension personnel, – agricultural implements free of charge, – quality farm inputs on credit – PepsiCo receives an agreed quantity of quality produce from farmers at a pre-defined price	Defined quantity of tomato, basmati rice, chillies, groundnuts at a predefined price
Adani Agrifresh	Himachal Pradesh, 4000 farmers	– post-harvest practices, cold chain support, – assured prices (generally 5 percent above the market price), announced on a weekly basis for different grades of apples	Apples for Delhi market
FieldFresh Foods Private Ltd	Maharashtra and Punjab, 3500 farmers	– guarantee to purchase produce grown within a specified quality range – predefined prices for given quality specifications – Detailed production protocols – Training on adequate input use – Lead farmers recruit and mentor farmers, manage demonstration plots, provide advisory services and post-harvest support.	Farmers deliver baby-corn to Fieldfresh

A large number of such private initiatives are operating. The reason for the growing importance of contract farming arrangement is seen in the fact that companies face significant challenges to access agricultural produce of a high number of small farms. As mentioned above, the benefits of these arrangements for farmers discussed controversy: On the one hand, farmers benefit from access to inputs and credits, assured markets, possibly reduced risks and learning on how to comply with (international) standards and norms. On the other hand, farmers face increased dependency of the company, have to understand and deal with contracts elaborated and proposed by the company, and not seldom sell their produce to lower prices than the market price.

Whether farmers are able to use contract farming arrangement to their benefit, depends on farmers' capacities and power to influence contract elaboration and implementation, and need to be analysed separately.

¹⁶ Source: <http://www.potatopro.com/news/2012/30000-indian-farmers-farming-pepsico-next-year>

3.3. NGOs and social entrepreneurs

The Non-Profit Sector in India presents an estimate of 1.2 million NGOs in India, most of them are small organisations in rural areas. They are thought to engage about 20 million persons (Pria et al.: 2012). Regarding to agricultural extension, NGOs are considered an important sources of information for small farmers in India (Ferroni & Zhou: 2011).

Their sizes range from very small local entities to large multistate organisations, whereas most of them access external donor funds. Typically, their social commitment is high, and many NGOs dedicate themselves to forming self-help groups or farmer-based organisations.

However, their number is insufficient to cover all farmers seeking advice, they yet remain a complement to the relatively larger public extension system.

Examples for large NGOs or rather social entrepreneurs are Basix, PRADAN and BAIF. They operate in numerous states (Figure 52), have been active for many years, and work according to established approaches and methods. Although the subsequent figures might give the impression, that these NGOs work everywhere, their outreach is limited to selected blocks and districts (Sulaiman: 2015)

Learning: In India, NGOs play a considerable role for introducing innovative and inclusive approaches into the RAS system. The pluralistic sources of finances allow these NGOs to offer a range of services on a relatively large scale.

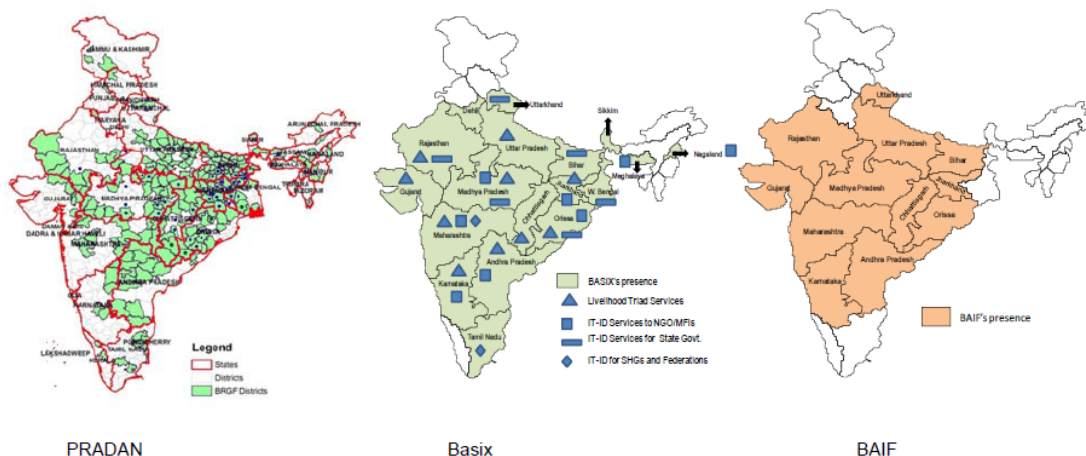


Figure 52: Operational Areas of Pradan, Basix and Baif (Ferroni & Zhou: 2011)

Basix is a microfinance institution with more than 3.5 million customers, of whom over 90 percent are rural poor households. Basix operates in 17 states, 223 districts and covers over 39,000 villages. It employs over 10,000 staff of which 80 percent work in small towns and villages. (Basix: 2015; Ferroni & Zhou: 2011) Basix provides business development and extension services, and financial products for farmers under one umbrella. It operates across eight crops as well as dairy production. (Basix: 2015)

BAIF is a development research foundation working in agriculture and livestock development. BAIF employs over 3000 staff, operates about 750 centres and reaches out to 2.5 million farmers that are mostly organised in cooperatives.

Pradan works across eight states of India through 41 teams of which each comprises ten professionals. PRADAN reaches out to about 200,000 families in over 4000 villages in 2013-14. PRADAN collaborates with a range of institutions such as government agencies, banks, market institutions, panchayats, or research bodies. (Pradan: 2014)

Effects: Ferroni & Zhou (2012) consider these huge NGOs as spearheads for needs and demand-driven extension. They together are expected to reach a considerable number of farmers, organise farmer and women groups and have a keen eye for innovations and markets. As a matter of fact, their outreach and activities depend on funding from public sector and donors, which is expected to be available, as long as poverty, natural disasters and inequality exist in Indian rural areas.

However, Swanson (2011) criticises that with expanded donor focus on agriculture, entrepreneurial NGOs may hire away the best public agricultural extension advisors, since these emerging new agricultural NGOs successfully compete for and carry out donor-driven extension projects.

3.4. Cooperatives

The cooperative sector in India has a long history, has currently estimated 230 million members, and is significantly involved in agricultural production support: Cooperatives offer the largest credit network and advance more credits in the Indian agricultural sector than commercial banks. Further, cooperatives command over 35% of the national markets for fertilisers and in the production of sugar and cotton, cooperatives have a share of 58%, respectively 60%. Cooperatives process, market and distribute 50% of the edible oil and the country's largest producer of milk is the Dairy cooperative. The rapid growth of the cooperative sector has evoked a supportive climate for the development of new cooperatives and thus the opportunity for diversification. Cooperatives are thus considered "to have immense potential to deliver goods and services in areas where both the state and the private sector have failed." (Sociology Guide: 2015) Despite cooperatives' high potential to reach out to farmers, the above shown Table 14 on the relevance of diverse RAS stakeholders indicates that cooperatives and NGOs together deliver agricultural information to only 4.2% of the assessed farmers. Thus, compared to other RAS stakeholders, cooperatives have yet a limited outreach to farmers.

Learning: The large network of cooperatives have a great potential to reach out to farmers and to link them to markets.

3.5. Mobile applications

Mobile applications for agricultural extension are growing, but still have a great potential to be further developed and spread. India's extension system includes several providers of mobile applications for agriculture including non-profit organisations and commercial agencies. Despite the range of service providers operating in the country, the number of farmers using mobile applications remains limited. Reasons are seen in limited access to internet, still not fully covered mobile telephone access, but mainly illiteracy and lack of voice based applications (Ferroni & Zhou: 2011).

The following table gives an overview of some major mobile application providers. The table is based on information given by Ferroni & Zhou (2011).

Learning:

- Voice messages are crucial to reach out to poor farmers.
- Phone applications have a higher outreach than internet applications.
- Interactive radio programmes where farmers can reply by mobile phones are a simple service that is attractive to farmers.

Table 16: Exemplary service providers of mobile applications (based on information of Ferroni & Zhou (2011))

Service provider	Technical data	Services	Outreach
Avaaj Otalo (non-profit)	– Voice based system – Services accessible on simple phones – Toll-free number (sponsored by the Development Support Centre and donors)	– Access to past radio broadcasts – Announcement board – Discussion forum – Expert advice	Gujarat: in total 3500 users (farmers)
Digital Green (non-profit; Bill and Melinda Gates foundation & Deshpande Foundation) In partnership with large organisations (Pradan, BAIF, Gov. Institutions)	– Digital video – Not cell phone driven – Accessible through digital library – Offline operation possible	– 1200 videos on agricultural techniques	42'000 users
Nokia Life Tools (commercial)	– Paid services on low-cost Nokia phones – Services available in 10 languages in two categories – Basic: Rs 30/month – Premium: Rs 60/month	– commodity prices for crops chosen by producers – seed and other input prices in local markets – weather forecast – agricultural and animal husbandry tips and techniques	No outreach figures available
IFFCO Kisan Sanchar Limited (Bharti Airtel and Indian Farmers Fertiliser Cooperative Ltd) (Commercial)	– Phone application – free voice messages – in 10 languages – helpline queries: 1RS/minute – One-time activation fee	– voice messages daily: information on market prices, farming and animal husbandry techniques, fertilisers – weather forecasts – 24h helpline	Three million activated SIM cards 700,000 farmers were active in 2010 Good ratings in a quality assessment
Kisan Call Centres (DoA, MoA) (public service)	– In 22 languages – Toll-free calls	– Weather forecast – Information on credit sources, quality inputs, crop insurances, fertiliser application, pest management	About five million calls answered by Kisan Call Centres from 2004-2005 (Chandragowda, 2010, in Sulaiman 2012)
Reuters Market Light (commercial sms service)	– SMS service – Low end phones	News on agricultural policies Market information for 1400 market places and 440 crops Advice for each stage of the farming cycle Weather forecast in 2800 locations	– 1.4 million farmers in 18 states of India; – 5-25% income increase of users

4. Pluralistic dimension and agricultural knowledge and innovation system

4.1. Pluralistic dimension

The Indian RAS system is noticeably pluralistic since there is a range of sources and providers for extension, without one dominating the system. The below actors depicted in the table below all considerably contribute to the overall extension system.

Table 17: Pluralistic dimension of the Indian country extension system (adapted from Anderson and Feder (2004)).

Source of finances	Service Providers					
	Public sector	Private Sector			Civil Society	
		Input supplier	Processors / traders	Private RAS providers	NGO	Producer organisations
Public	ATMA, KVK, MANAGE, Kisan Call Centre, ATMA	MANAGE diploma courses, Public input subsidies to ABACS			PRADAN	
NGO/Donors	ATMA			Mobile applications	BAIL PRADAN BASIX	
Private companies		Agribusinesses	Contract farming schemes	Agriclinics, Mobile applications	PRADAN BASIX	
Producer organisations / Cooperatives	Indian Dairy Cooperative					230 million members of Indian agricultural cooperatives ¹⁷

4.2. Agricultural knowledge and innovation system

The central autonomous Indian Council for Agricultural Research (ICAR) operates 40 Agriculture Technology Information Centres (ATICs) and 569 district-level Krishi Vigyan Kendras (KVKs), or farm science centres. Additionally, each state has a state agricultural university that provides extension and training activities. However, activities of the state universities vary from state to state.

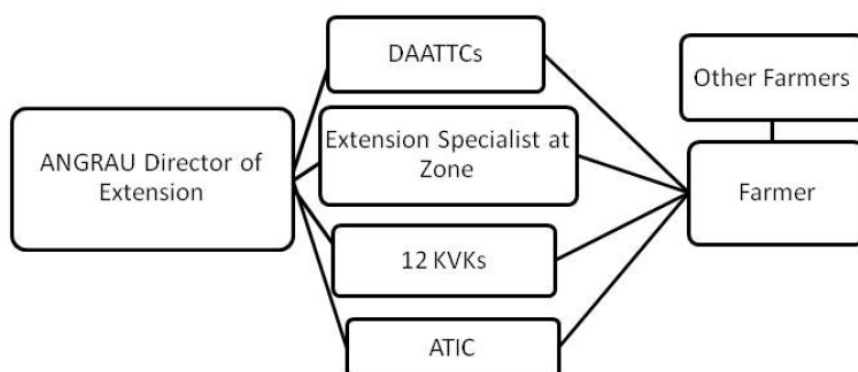
E.g. in Andhra Pradesh, the state agricultural university (ANGRAU), has organised District Agricultural Advisory Transfer of Technology Centres (DAATTCs) at the district level. Each of these centres carry out diagnostic visits to farmers on a weekly basis. Twice a year, zonal research meetings take place, with the goal that extension workers at the DAATTC, farmers, and state university scientists meet to identify research needs. Despite the zonal research meetings, only limited feedback on farmers' needs is included to the knowledge system. Reasons for that are that these meetings rarely take place,

Learnings:

- Research-Extension-Farmer meetings as a mechanism to include farmer's information needs into research.
- Major challenge: Dove tailing national research and extension plan with farmers' requirements for knowledge.

¹⁷ Source: Sociology Guide: 2015

farmers' participation is low, and meetings tend to exclude farmers living away from research centres. (Glendenning: 2010)



Source: Authors.

Note: ANGRAU = Andhra Pradesh State Agricultural University, DAATTC = District Agricultural Advisory Transfer of Technology, KVK = Krishi Vigyan Kendra, ATIC = Agriculture Technology Information Centres.

Figure 53: Information flow in Andhra Pradesh state agricultural university (Source: Glendenning et al. 2010)

In general, staff of the DoA receive their information from various sources, including the research stations of ICAR. However, information flows from the universities and research institutes to the KVKs and other extension providers are largely linear, well known to be weak and tend to be top-down. (Glendenning: 2010) Since feedback from extension to research is limited, research agendas do not reflect extension experiences (Sulaiman and Holt 2002). Information content still reflects centralised agendas, thus focuses on crop production and rarely includes local information needs such as postharvest information and market access. This is seen as a key challenge in the state DoA. Glendenning (2010) sees a need to encompass the wider definition of extension and provide more opportunities to include farmers' feedback into the agricultural knowledge system." (Glendenning: 2010)

In addition to internally weak information flows, the knowledge use and generation of the DoA tends to be isolated from other extension actors, such as private actors, NGOs or even state government line departments, such as animal husbandry, fisheries, and forestry. (Glendenning: 2010)

Ghimire (2014) describes these weak research - extension – farmers' linkages, too. Ghimire (2014) sees a role of donors to provide knowhow and expertise on how to manage the change from top down information flows to a more client oriented learning.

5. Effectiveness of the RAS system

Ghimire (2014) claims that the traditional agricultural extension programmes in India have not yet included a consistent impact evaluation system. The reasons are manifold and include inadequate opportunities for extension agents to improve their evaluation capacities or low attention of the government to commit time and resources for impact evaluation. That is why, impact evaluations that determine socioeconomic change in communities are still limited to donor supported projects. (Ghimire: 2014) The following information on the effectiveness of the RAS system applies thus only punctually and does not base on sufficient data.

Learning: Monitoring and impact assessment is a state function to improve effectiveness of a country RAS system.

5.1.1. Outreach

A key issue regarding the effectiveness of the Indian RAS system is its outreach to farmers. According to Adhiguru et al. (2009), only 40% of farmers have access to information relevant to agriculture. Despite its abundant network for agricultural extension reaching from the MoA at the central level to KVKs at the local

level, the public extension system in India caters to only 6% of the more than 119 million of Indian farmers (Ghimire: 2014; Ferroni & Zhou: 2011; Adhiguru et al.: 2009).

Glendemming (2011) brings in the argument that low outreach is due to low staff numbers and low operational budgets: 85–97% of expenditures going to salaries. This limits the ability of DoA staff to visit farmer fields (Sulaiman and van den Ban (2002) in Glendemming (2011)). Sulaiman and Holt (2002) found that extension workers consider remote areas to be “punishment postings”; 50% of these posts are vacant, and the capabilities of the extension workers there are questionable.

Due to the low coverage and often low quality of services, the productive potential of small farmers could yet considerably be multiplied with the right technologies, services, mentoring and access to markets. However, Ferroni & Zhou (2011) claim that this is far from happening at scale.

5.1.2. Quality of extension

The quality of RAS is as crucial as its outreach. Ghimire (2014) states that in India, many small scale-farmers feel underserved and disengaged from their extension services. In particular, farmer specific information needs seem often not reflected in the extension services offered. As reason for low quality services of public extension agents, Ghimire (2014) claims that “agents in emerging countries have grown up in an environment where there is neither reward for dedicated service to farmers, nor any serious disciplinary action for sluggish performance.” In the public extension approach, farmers is at the end of the information chain with little opportunity to provide feedback. Monitoring and evaluation of staff is top-down, with little to no role for farmers. (Anderson, Feder, and Ganguly (2006) in Glendenning (2012)).

Furthermore, in India, a large number of schemes and programmes are imposed from the centre and states to district government centres. Extension staff thus tend to perform public duties not related to extension, such as election or census duties (Ferroni & Zhou: 2012).

This is reflected in an assessment of Adhiguru et al. (2009) who show that other progressive farmers and input dealers are by far more relevant sources of information than government extension workers, in particular it comes to adoption of provided information. The study indicates that the adoption rate of information provided by other progressive farmers is highest compared to other source of information.

Learning: Progressive farmers and input dealers are recognised as a relevant source of information for poor farmers. Building their capacities increases the outreach of the extension system.

Learning: Public extension workers have to cover a range of services, not only for extension. Depending on state priorities, public agricultural extension delivery is neglected.

Table 18 Efficiency of sources of information. (Adhiguru et al. 2009; based on 51770 samples assessed by NSSO: 2005)

Sl No.	Sources	Percentage of total households			Percentage of accessing households	
		Access	Trial	Adopt	Trial	Adopt
1	Participation in training programs	0.9	0.6	0.6	66.1	64.5
2	<i>Krishi Vigyan Kendras</i>	0.7	0.5	0.5	66.9	66.2
3	Extension workers	5.8	3.8	3.6	65.4	62.5
4	TV	9.4	5.0	5.0	53.3	53.1
5	Radio	13.1	7.4	7.1	56.4	54.5
6	Newspapers	7.0	3.8	3.8	54.1	53.8
7	Village fairs	2.0	1.0	1.0	47.2	48.0
8	Govt. demonstrations	2.1	1.2	1.2	59.2	60.4
9	Input dealers	13.2	10.7	10.8	81.5	81.7
10	Other progressive farmers	16.8	13.9	14.3	82.8	85.1
11	Farmers' study tours	0.2	0.1	0.1	48.8	52.3
12	Para-technician/private agency/NGOs	0.6	0.3	0.3	55.5	56.6
13	Primary cooperative societies	3.6	2.5	2.5	70.0	68.4
14	Output buyers/food processors	2.3	1.6	1.5	67.6	62.8
15	Credit agencies	1.9	1.0	0.9	51.4	49.0
16	Others	1.7	1.1	1.2	67.5	68.6

5.1.3. Inclusiveness

The Indian five-year development plan (2012) pronounces that balance of power in rural India is heavily weighed against the landless and the poor. It claims that without massive mobilisation of the rural poor a deepening of democratic governance in rural activities will not take place (FYP: 2012). These constraints are further compounded for tribal and women farmers. Since more men than women move out of agriculture, there is a shift towards a feminisation of agriculture. These women farmers typically have little access to land, agricultural inputs and other services. (FYP: 2012)

Learning: Role of the government to coordinate and to reinforce public interests: The Government of India jointly with donors issues guidelines to strengthen inclusiveness of the extension system.

Generally, Adhiguru et al. (2009) found that public extension provision, and information provision through newspaper, TV, and input dealers are particularly biased towards large scale farmers (see Table 14).

Regarding public extension services, there are new approaches to render the public extension system more inclusive. A revision of the ATMA system foresees farmer-to-farmer extension, strives to increase the number of focal points from three to five in every block, and provides guidelines to reach a 50% participation of small and marginal farmers in learning events (Glendenning: 2010). Further, the ATMA guidelines insist that 30% beneficiaries of ATMA programmes have to be women (Sulaiman: 2015). However, only effective monitoring and evaluation of these components of ATMA will encourage real outreach of extension to the poor segment of the farming community. (Glendenning: 2010)

Adhiguru et al. (2009) indicates that for small scale farmers, 'other progressive farmers' and radio broadcasts are the most popular sources of information. This is explained with the relatively higher cost of information acquisition from other sources, and with a potential bias of private agencies towards large scale farmers. Complementary, due to the broad access to radio by rural population, radio broadcasts appear to be one of the important source of information for small scale farmers, too (Adhiguru et al.: 2009).

Civil society organisations, in particular NGOs are expected to have a specific focus on small scale farmers or female farmers. In the above-mentioned study this group plays with around 4% of farmers provided with information a limited role when it comes to the outreach to farmers. (Adhiguru et al. 2009)

6. Conclusions: Learnings and innovations from the Indian RAS system on how to reach large numbers of farmers with RAS

Learnings regarding the role of the state

Looking at the Indian RAS system one can derive several learnings regarding the role of the state in a country extension system.

- **ATMA coordinates RAS activities** including those of private and civil society institutions. It facilitates linkages between research, extension, private sector, NGOs and farmers. By recognising all actors as relevant parts of the extension system, ATMA as coordination unit has the potential to increase the pluralism and outreach of the RAS system.
- Another role the government is reflected in the government programme to **build capacities and accreditate private input providers**, here in the form of a certificate course for input suppliers. With such certificate course, the Government of India supports pluralistic service provision and increases the RAS system's potential to reach out to a greater number of farmers.
- **Strengthen inclusiveness of the RAS system**: The MoA issues guidelines that representation of poor in ATMA trainings must be 50%, and representation of women 30%. Such guidelines are found to increase the inclusiveness of the system. In order to have an impact, it was shown that **guidelines must be well monitored**. Where monitoring efforts lack, the system in general risks to be less inclusive.
- **Support public private partnerships by** mandating private service providers to jump in where public service provision is weak, or to finance research programmes. Experiences in India show that yet mainly private interests drive these partnerships. Hence, in order to use PPPs for public interests such as poverty reduction or ecologically sustainable agriculture, the influence of the state need to be reinforced.
- **The role of the state in contract farming** is generally weak in India. Contract farming is a promising scheme to deliver services to farmer in an economically sustainable way. However, to avoid negative effects of contracts on poor farmers or on the environment, **a monitoring and farmer supporting mechanism must be in place**. It is here, where the government (or donors) may jump in.

Learning regarding the agricultural knowledge and innovation systems

Ideally extension needs to be linked to the other actors in the Agricultural Innovation System. In India, knowledge transfer is still one-sided from research to extension and yet, no feedback mechanism between farmers, extension workers and research institutions has been institutionalised. This increases the risk that public extension services do not meet farmers' needs, which accounts for the often mentioned low quality services. The reason for such one-sided information provision, respectively the weak linkages between the diverse actors is seen in the **overall difficulty to dovetail national extension and research plans with local needs**.

Learning regarding capacity building for extension workers

Generally, capacity building for private and public extension workers is institutionalised and financed by the Gol. This education system for extension is decentralised to the state level, which is comparable with the national level of smaller countries. It was found that experienced farmers or input suppliers often build the last mile in the Indian extension system. Thus, by building capacities of input providers, the Government of India make use of a relevant opportunity to improve the outreach and quality of the extension system.

Capacity development of experienced farmers would have the same effect. Yet, experienced farmers are not included into the public capacity building system, although such activity could considerably increase the outreach and inclusiveness of the extension system.

Pluralistic dimension of the RAS system

By establishing ATMA as a coordinating entity for extension services, the government affirmatively supports pluralistic extension service delivery. This is particularly successful in regions where private agencies have an interest to involve in RAS and where public extension workers are available. In remote areas or areas with low agricultural potential, neither the government (lack of extension workers) nor the private sector is sufficiently represented. There, publicly financed civil society organisations or public extension institutions are the single RAS providers. The pluralistic dimension of a RAS system usually depends on the scale of observation and decreases with the observed area. Particularly in remote areas with less agricultural potential affirmative government action to support pluralistic service delivery, or public finances for RAS are required.

Multifunctional services – key for economic viability of service provision and demand orientation

The private sector as well as civil society organisations consider holistic services as a meaningful approach to RAS – either from an economic point of view, or/and from a demand orientation perspective:

Most of the private service providers recognised that multifunctional or holistic service delivery have a potential to become economically viable in areas with a certain agricultural potential. Most of them offer combined services in selected areas.

Also NGOs strive to offer multifunctional services; their goal is to best react on farmers' demands. The large NGOs operating in India play a considerable role for piloting innovative and inclusive approaches of holistic RAS delivery, such as combined financial and advisory services. This is possibly because they collaborate and receive funds from various institutions, which endows them to offer a diversity of services supported by these multitude of partners.

Mobile applications with voice messages contribute to an increased outreach of RAS to poor producers

India with its diversity of mobile services shows that mobile applications have then a considerable potential to reach out to a large number of farmers. The inclusion of voice messages significantly enhances the use of these applications by poor farmers. Further, India shows that farmers are eager to access not only current, but also past radio programme. The opportunity to reply broadcasts allows farmers to listen the broadcasts when they are at home, and to repeat relevant contents if necessary. Finally yet importantly, the experience of India shows that if interactive services are available (services that offer producers an opportunity to put questions to experts or other producers), they are used and appreciated by a large number of farmers.

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OUTCOMES AND OUTLOOK



The CAPEX RAS process basically includes the seven studies, the SDC face-to-face workshop “Reaching the Millions!” that took place in Hanoi in March 2015, the Hanoi Statement on Rural Advisory Service Systems, as well as the synthesis article that has been published in the Development Magazine Rural 21 in December 2015. The learning process, however, has been continued and still goes on. Yet, several follow up events took place and some unexpected outcomes appeared:

- 1.) **The foundation of the Mekong Extension Learning Alliance (MELA).**
This is a group of actors involved in RAS that grew out of the discussions, the sharing and the joint vision generated at the Hanoi Workshop “Reaching the Millions!”. The inaugural meeting took place in August 2015. With this, MELA became a regional network of the Global Forum for Rural Advisory Services (GFRAS) representing the countries Myanmar, Laos, Thailand, Cambodia and Vietnam.
- 2.) The Learning and Networking Team of SDC has published a **web-based multimedia reportage** about the CAPEX RAS process in order to share the comprehensive experiences and learnings of this broad capitalisation processes with an interested audience. The multimedia reportage is accessible here:
<http://capex.pageflow.io/rural-advisory-services-reach-the-million#36379>
- 3.) SDC has mandated the “Fachhochschule Nordwestschweiz” to conduct a **study on the application of the Hanoi Statement on Rural Advisory Service Systems** on the example of SDC projects in the Hindukush region. The study will be finalised in 2016.
- 4.) **Several workshops** took place in order to share and discuss the insights of the seven studies, and to disseminate the content of the Hanoi Statement:
 - a) Presentation of the Hanoi Statement at SDC Head office in October 2015, Switzerland.
 - b) Workshop on RAS and the Hanoi Statement at the Swiss Forum for Rural Advisory Services (SFRAS) in Mai 2015, Switzerland.
 - c) Presentation of the studies and the Hanoi Statement at the Swiss Forum for International Agricultural Research in April 2015, Switzerland.
 - d) Workshop about the Hanoi Statement and agricultural innovation systems in the frame of the Annual Meeting of GFRAS in September 2015, Kyrgyzstan.
- 5.) The design of a **new SDC financed RAS programme in Nepal**, the Nepal Agricultural Services Development Programme (NASDP), fully based on the Hanoi Statement. The first phase of the programme will be implemented by HELVETAS Swiss Intercooperation from 2016 to 2019.



All documentations and updates about the ongoing capitalisation process are published at the website of the Agriculture and Food Security Network of SDC.

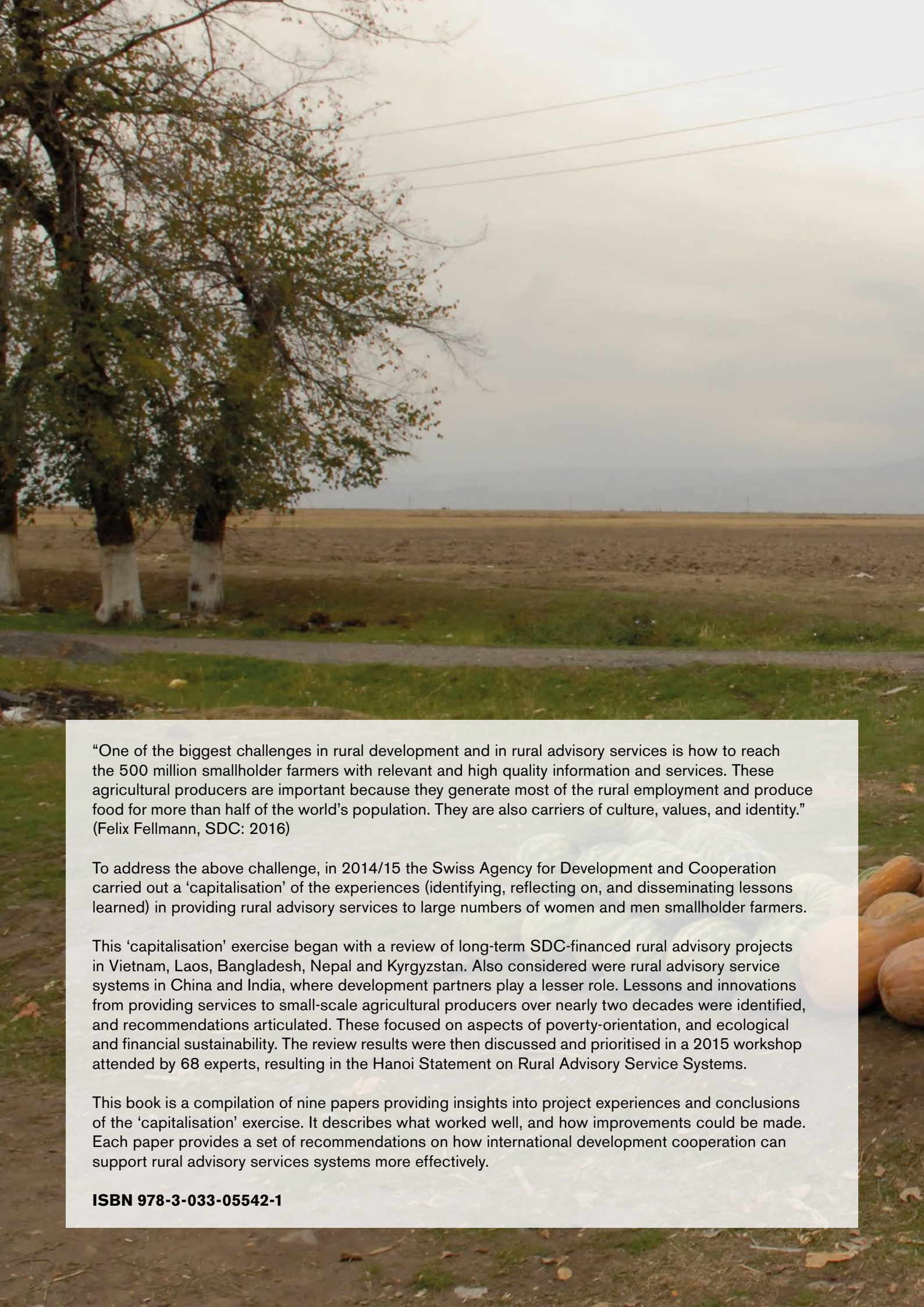
<https://www.shareweb.ch/site/Agriculture-and-Food-Security>

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“One of the biggest challenges in rural development and in rural advisory services is how to reach the 500 million smallholder farmers with relevant and high quality information and services. These agricultural producers are important because they generate most of the rural employment and produce food for more than half of the world’s population. They are also carriers of culture, values, and identity.”
(Felix Fellmann, SDC: 2016)

To address the above challenge, in 2014/15 the Swiss Agency for Development and Cooperation carried out a ‘capitalisation’ of the experiences (identifying, reflecting on, and disseminating lessons learned) in providing rural advisory services to large numbers of women and men smallholder farmers.

This ‘capitalisation’ exercise began with a review of long-term SDC-financed rural advisory projects in Vietnam, Laos, Bangladesh, Nepal and Kyrgyzstan. Also considered were rural advisory service systems in China and India, where development partners play a lesser role. Lessons and innovations from providing services to small-scale agricultural producers over nearly two decades were identified, and recommendations articulated. These focused on aspects of poverty-orientation, and ecological and financial sustainability. The review results were then discussed and prioritised in a 2015 workshop attended by 68 experts, resulting in the Hanoi Statement on Rural Advisory Service Systems.

This book is a compilation of nine papers providing insights into project experiences and conclusions of the ‘capitalisation’ exercise. It describes what worked well, and how improvements could be made. Each paper provides a set of recommendations on how international development cooperation can support rural advisory services systems more effectively.

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