

Essay on Development Policy

Financing Rural Advisory Services in Developing Countries: The Case
of the Organic Cotton Sector in Northern Tajikistan

Stefanie Kaegi

NADEL MAS Cycle 2012-2014

March 2014

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3 List of Abbreviations

FA	Field Advisors
HSI	HELVETAS Swiss Intercooperation
RAS	Rural Advisory Service
SP	Service Providers

4 Introduction

Financing rural advisory services (RAS) is a key question in most agricultural development projects. In particular in the course of recent global food crisis, the sustainable functioning of RAS has regained attention (Fischler et al.: 2011)

In the last 20 years, agricultural extension has seen significant changes (Chapman: 2003): Since 1990, a global shift from mainly state owned extension services towards a decentralised pluralistic¹ RAS landscape took place (Schmidt 2012b). And whereas in the 70's and 80's, RAS were seen as mechanism for distributing agricultural technology and research results, nowadays RAS are understood in a far broader way (Schulz et al.: 2012). The global forum for rural advisory services delivers a frequently used definition of RAS from a today's understanding:

“RAS are all different activities that provide the information and services needed and demanded by farmers 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” (Sulaiman & Davis: 2012).

More than ever, a pluralism of approaches, service providers and funding sources are considered as key to ensure that RAS systems fit to local contexts and the demands of clients (Schulz et al.: 2012). The core question inherent to such pluralistic RAS systems seems to be:

Who is delivering what services to which clients and who (should) finance them?

The present essay discusses that question basing it on the example of the organic cotton sector in Tajikistan. Since financing mechanisms are often considered as key for the sustainability of RAS (Fischler et al.: 2011), the essay specifically focuses on the question's tail: who (should) finance RAS and for what reasons?

¹ A pluralistic RAS system is understood as one with more than a single SP and more than one source of funds involved. (Schmidt: 2012)

5 Analytical framework

Based on literature (Katz: 2002, Neuchâtel Group: 2002, Schmidt: 2012), the author has identified three aspects as theoretical framework to analyse RAS in the organic cotton sector of Tajikistan: involved actors, private and public interests attached to RAS and direction and source of funding flows.

Involved actors in RAS

In pluralistic systems of RAS, one distinguishes between service providers (SP), service funders and clients. It is important to note that “the source of funds does not necessarily determine who provides the services” and vice versa (Schulze et al.: 2012). Further, in pluralistic RAS, farmers are not (anymore) considered as mere recipients of services, but as clients capable to claim the services they need (Schulze et al.: 2012).

With the following table, Schmidt (2012b) provides an overview of the potential combinations of service and funding providers.

Source of finances for services	Service Providers (SP)					
	Public Sector	Private Sector			Civil Society	
		Input supplier	Processors / traders	Private RAS providers	NGO	Farmer Org.
Public	Public-sector services	Publicly funded contracts or subsidies to private SP			Publicly funded contracts to NGOs; Publicly funded NGO providing free services.	Publicly funded contracts or subsidies to farmer organisations
NGOs	Public sector SP hired by NGOs.	Private SP hired and paid for by NGOs			Other NGO hired as SP.	SP hired by NGOs and paid for by Farmer org.
Private companies	Public sector SP hired by private companies	SP hired by companies, often linked to sale of inputs (embedded services)	SP hired by companies, often linked to procurement of agric. products	SP hired by private companies.	Private sector contracts to NGOs as SP.	Private sector contracts to farmer organisations as SP.
Farmers	Public sector SP hired by clients or farmer org.	(Specialized) services hired and paid for by clients.	(Specialized) services hired and paid for by clients.	SP hired by clients or farmer org.	-- (or very rare)	Farmer org. as SP to own members
Farmer Org.	Public sector SP hired by Farmer org.	Private SP hired and paid for by Farmer org.			-- (or very rare)	SP hired by Farmer org. as a free service to farmers

Figure 1: Service providers and source of finances. Source: Schmidt (2012b)

Private and public interests attached to extension services

In order to define who is paying what for extension, Katz (2002) proposes the economic concept of public and private goods resp. interests. She suggests the principle: “The decision on who should finance what in extension should be guided by the public [and private] interest attached to services and actions [...]” Evidence shows that extension services that are fully in public or private interests are rare. Accordingly, combinations of private and public funds for financing RAS make sense and are part of pluralistic extension services. (Katz: 2002)

Direction and sources of funds

As soon as there is a substantial amount of public interest attached to RAS, financial participation of the public is needed in order to secure the availability of the service (Neuchatel Group: 2002).² Public funds³ can either flow directly (supply-side financing) or indirectly, via the client to the SP (demand-side financing) (Katz: 2002). The following table shows how demand-side financing (scheme B/C) strengthens accountability of SPs in direction of the clients, whereas supply-side financing (scheme A) leads to accountability towards the source of funds. It can be assumed, that SPs who are to some extent accountable to the users, provide more effective, demand-oriented and better quality services (Katz: 2002).

² E.g. in Switzerland 60% of agricultural extension is considered as being in the interest of the public and thus paid by public funds (Katz: 2002)

³ According to Katz (2002), public financing includes funds of the government as well as funds of international donors.

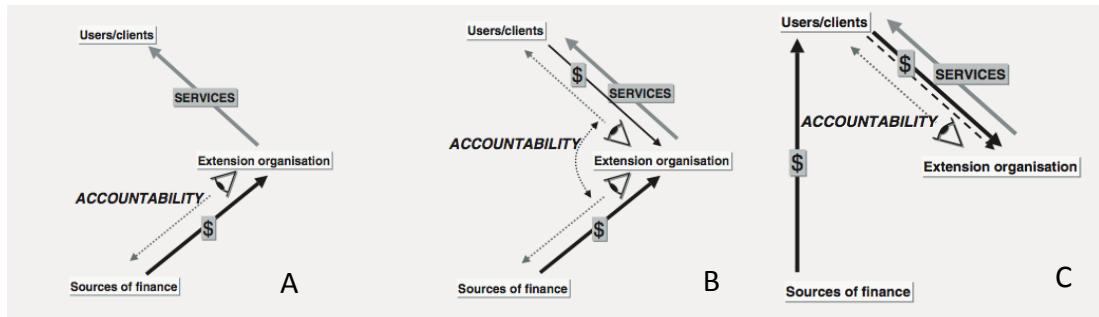


Figure 2 Source and flows of finances in A) demand-side financing (with support to the clients), B) supply-side financing and C) combined demand- and supply side financing. The figure shows, how the eye of accountability looks in the direction of the money flow. Source (Katz: 2002)

Two funding sources for demand-side financing are conceivable: The finances come out of the farmers' own pocket (scheme B) or public funds are transmitted to farmers in order to increase their purchasing power (scheme C) (Neuchatel group: 2002, Katz: 2002).

Financial participation of farmers is broadly discussed but so far, direct payments of farmers to RAS providers remain rare (Schulz et al.: 2012). However, from a development point of view, the following aspects support the idea of farmers' participation in financing extension:

- 1.) Usually, **farmers' private interests** are attached to extension services and accordingly the farmers at least partly should pay for it (Neuchatel group: 2002).
- 2.) **Accountability of the SP:** A SP is mainly accountable to the institution that pays the service and not necessarily to the client/beneficiary receiving the service. With farmers' participating in financing, the accountability of the SP (in the figure 2, the eye) is directed also towards the client (Katz: 2002).
- 3.) **Ownership of farmers:** The proposed perception of farmers as clients in demand-oriented pluralistic RAS makes only sense, if farmers also start perceiving themselves as clients, rather than beneficiary. Through financial participation, ownership is at least partly transmitted to farmers. It can be assumed, that this brings farmers to a position to demand more influence vis-a-vis the SP (Katz: 2002).

The following ways of financial participation of farmers are proposed:

- 1.) Farmers pay directly to SPs (Schulz et al.: 2012).
- 2.) Market-oriented advisory service (MOAS): Farmers indirectly (co-) finance RAS through levies on produce. In this case the SP acts as a trader (Katz: 2002).

- 3.) Farmers indirectly pay part of a price premium for quality to the SP, often in combination with organic or fair-trade certification (Heierli: 2008).
- 4.) Embedded services: The costs of the advice are inbuilt in the price of the sold input and/or in the margin of the procurement of agricultural produce (Schmidt: 2013).
- 5.) Farmers pay indirectly through membership fees to farmer organisations, which themselves provide RAS (Katz: 2002).

6 Financing RAS in the organic cotton sector in Northern Tajikistan

This chapter discusses services and their financing using the example of the organic cotton sector in Tajikistan. It provides an overview of involved actors, their financial contribution to RAS and the private and public interests attached to the offered services.

In order to discuss the public and private interest, the author makes the following assumptions:

- 1.) Rather than on economic calculations or scientific analysis, private and public interest are defined on the basis of political beliefs (Katz: 2002). Accordingly, the author does not consider her definitions of private and public interest as scientific, but tries to reflect the perspective of development actors.
- 2.) Poverty reduction, pollution control and environmental protection are defined as being a public interest.
- 3.) Organic cotton production has a considerable potential to improve the livelihood of farmers (Eyhorn: 2005, Heierli: 2009) and may be considered as a means for poverty reduction.

Actors and finance flows

In Tajikistan, organic cotton production started with the implementation of the organic value chain development project of HELVETAS Swiss Intercooperation (HSI) in 2009 (HSI TJ: 2014). Since then, the involved actors and the approaches of financing RAS have seen significant changes. Starting with a donor funded, supply-side financed and NGO-driven RAS, the

current structure is highly business-oriented and hardly tries to become financially sustainable. The following figure shows the main actors, the finance and services flows.

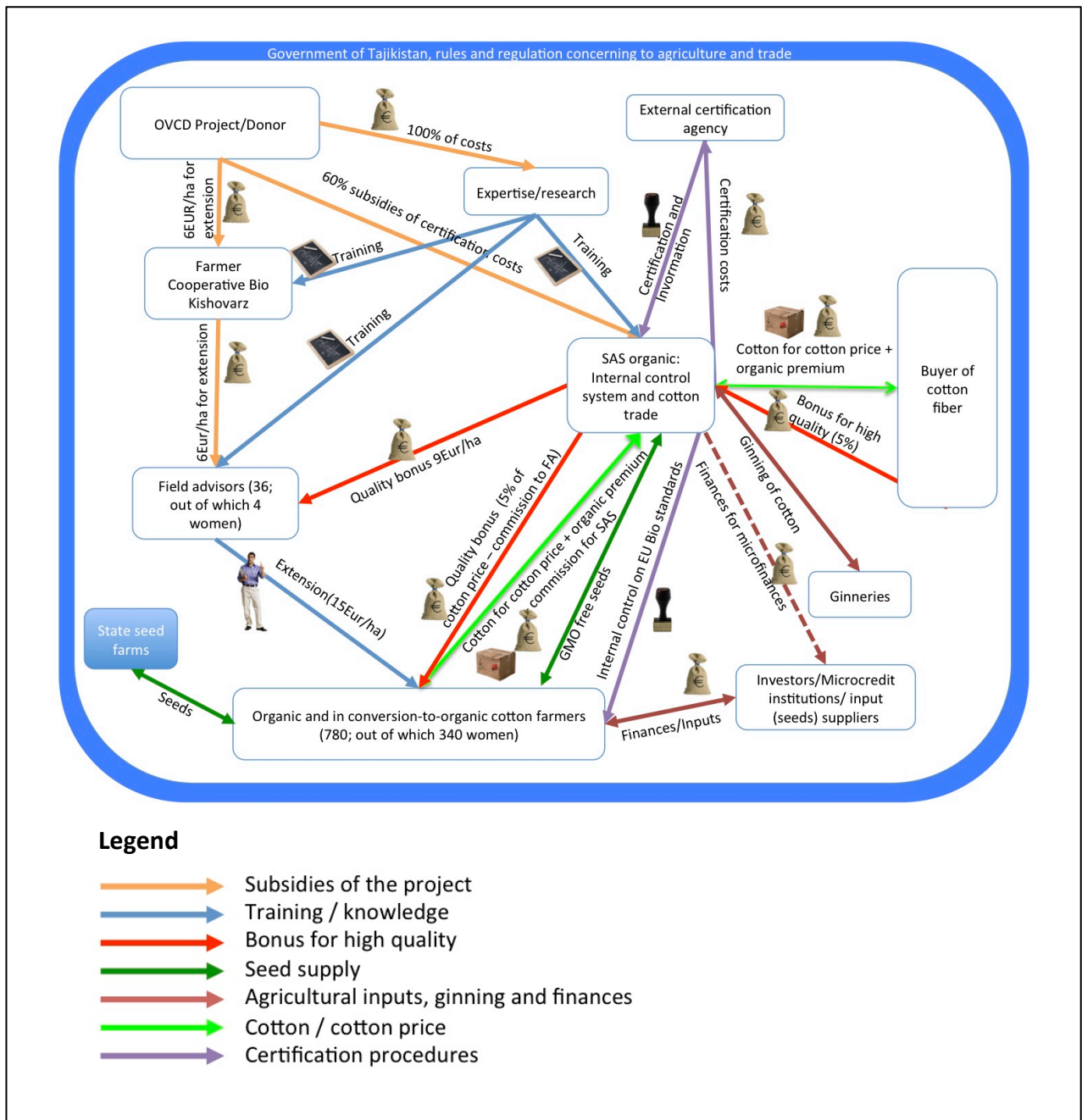


Figure 3: Main actors in the Tajik organic cotton sector and their interaction. Source: Author's illustration

The following table demonstrates the combinations of SPs and funding sources according to the analysis framework proposed by Schmidt (2012b).

Source of Finances	Service Providers					
	Public sector	Private sector			Civil society	
		Input supplier	Processors/ traders	Private RAS providers	NGOs	Farmer org.
Public (gov.)	State extension service on conventional cotton production, state seed farms, state machinery services					
Public (int. donors)		Supply chain for irrigation technics, organic pest control (only in the beginning financed by donors) = embedded services		SASorganic provides input, extension and certification (only in the beginning financed by donors)	NGO <i>Sadaat</i> (Knowledge and expertise on organic farming), intern. NGOs provide expertise on org. farming	Farmer Cooperative <i>Bio Kishovarz</i> provides inputs, extension (and machineries)
NGOs						
Private companies	Contracts between government and private seed suppliers		Processor <i>Barakat Isfara</i> buys and processes organic vegetables			
Farmers		Microfinance institutions and investors provide finances, machineries and inputs to farmers		SASorganic provides input, extension and certification		Farmer Cooperative <i>Bio Kishovarz</i> provides inputs, extension (and machineries)
Farmer org.						

Figure 4: Service providers and source of finances in the organic cotton sector in Tajikistan. Source: Adapted from Schmidt (2012b), see Figure 1.

Services for organic cotton production

This chapter gives an overview of the main services in the organic cotton sector. They are discussed considering private and public interests attached to them.

Information on organic agriculture

Before farmers start to grow organic cotton, it is crucial that they get information on organic standards, the related benefits and requirements on a production and marketing level. An uninformed decision in favour of organic farming bears the risk of a high number of dropouts among farmers due to wrong expectations or knowledge.

In Tajikistan, field advisors (FA) of the BIO Technical Advisory Groups provide information on a result-oriented basis and are motivated by their private interests: the FA’s salary directly depends on the number of hectares on which farmers produce organic cotton. The more

organic cotton the FA provides to the trading agency, the higher is his/her salary.

Accordingly, FAs inform farmers who have access to big fields (less work/ha), fertile and well-irrigated soils (higher yield/working time) and which are easy to access (less travel time/ton cotton).

The project's interest – here understood as a public interest – is to improve the livelihoods of poor farmers. Therefore, the information should be available for all farmers, including those, which are less lucrative for field agronomists. Without payment for the additional effort of field agronomists to provide information to all farmers, marginalised farmers do not get access to information. That is why, as long as the project subsidises the FAs' work, they are asked by the project to deliver information to all farmers. The fewer subsidies the project pays, the less influence the project has on the FAs' services. Probably, with decreasing subsidies the service will be less offered to remote farmers.

Supply of GMO-free seeds, suitably for organic agriculture

In the context of increasing use of genetically modified (GM) cotton varieties, the controlled supply of GMO-free seeds becomes more needed and challenging than ever. According to TE (2012), GMO status of cotton plants is estimated to be around 50% of global cotton production and GMO contamination is considered as main reason for the decrease of organic cotton production (-37% in 2012).

Identifying seed suitable for organic farming requires a great deal of observation. And once a variety is identified, controlled breeding is necessary to maintain the plant's quality (Eyhorn 2005).

In Tajikistan, economies of scale play a crucial role regarding the profitability of GMO-free, seed supply. Usually seeds are produced by state seed-farms (FARMS 2006) and sold or provided as in-kind contribution by investors or gineries. To gather GMO-free seeds, organic cotton fields need to be isolated from neighbouring fields; seeds must be tested and stored separately. Only through large quantities and relatively small GMO risk, this effort is lucrative for private actors.

On one hand, the author considers the supply of high quality seed in private interest of 1) the supplier who makes a seed business, 2) the farmers who get a quality/organic premium

by using high quality, GMO-free seeds, and 3) the cotton buyer who receives high quality cotton.

On the other hand, the author considers the maintenance of local, GMO-free plant varieties insofar in public interest, as it strengthens biodiversity and ensures free choice of farmers and buyers regarding variety. The latter is particularly important in a context, where a few seed investors dominate local seed markets.

Supply of inputs, machineries and/or finances

According to Eyhorn (2007) and HSI (2008), the production costs of organic cotton are around 10% lower than for conventional cotton.⁴ However, most of the cotton growers in Tajikistan need external investments in order to come up for production costs (Farms: 2006). Total production costs for organic cotton are around 1000\$/ha, including the purchase of seeds (80\$), mechanical soil preparation (200\$), water for irrigation (60\$), organic soil fertilizing (70\$), pest and weed management (20\$), manual labour (80\$), harvest (200\$), transportation to ginneries (50\$), ginning (220\$) taxes and land rent.⁵

On average, credits cover 50-70% of the cotton farmers' inputs. There is only limited (<5%) involvement of the formal banking sector in the cotton sector. Investors, ginneries and agro-input markets remain the main source of finances, resp. in-kind contributions for cotton farmers. In return, farmers sell their cotton to the investors by the end of the season. (Farms: 2006)

In organic cotton markets, only the holder of the organic certificate (in Tajikistan: SAS organic) can sell cotton as "organic" and thus receive an organic premium. Hence, to assure the organic premium, farmers need to sell their organic cotton to SAS organic and not to other investors. Therefore SAS organic itself needs to invest (financially or in-kind) in farmers.

Generally, the author understands such investments in organic cotton production as private interest of the trader and extension providers. Both benefit from levies of the sold organic

⁴ On the basis of studies from India and Tanzania

⁵ Data is based on the author's profitability assessment of organic farming (HSI: 2014c)

cotton and might thus be interested in pre-financing (in-kind/loans) cotton production. Evidently, the organic cotton trader is not willing to invest in farmers, who are indebted with other investors. There is an obvious risk that indebted farmers will not be able to sell their organic cotton to SAS organic. Such farmers cannot benefit from the organic premium. From a development point of view, the author considers debt recovering of farmers a crucial step to make the benefits of organic cotton available also to currently indebted farmers. Supporting farmers in paying back their debts, resp. in making free decisions regarding cotton sales, is thus considered as being in public interest. Such service is not yet offered and will not be available without extended public funding.

Supporting irrigation techniques

According to Eyhorn (2005), the irrigation system, its intensity and timing are crucial for high quality and quantity of yields. Generally, good soil management, resp. high amount of organic matter improves infiltration of water and retention of humidity in soils (Eyhorn: 2005). Accordingly, information and access to irrigation techniques and soil management are necessary to increase water availability in soils.

In Tajikistan, organic cotton irrigation systems are inherited from the Soviet Era, of obsolete and poor performance. 70% of interviewed farms face timing problems of water delivery and 50% of farmers claim, that irrigation is continuously insufficient (FARMS: 2006).

Although water supply is not sufficient for organic and conventional farmers, private investments in water infrastructure are not being expected, as long as farmers face insecurities regarding land user rights (FARMS: 2006). Furthermore, the author has observed, that the provision of water is a political issue and water committees deciding on water supply are considered by farmers as corrupted. However, several donor-financed activities in the water sector have been observed. None of them are directly linked to organic cotton production, but support it in an indirect way: E.g. in 2013, the organisations iDE and HSI jointly opened activities to establish a sustainable supply chain for drip irrigation. In parallel, the Better Cotton Initiative provides training on sustainable irrigation methods (BCI: 2014) and the national water resources management project, financed by the Swiss Development Cooperation, is going to take up its activities in close future (HSI: 2014b).

On one hand, the author considers effective irrigation as being in the private interest, insofar as it directly increases yield and quality of cotton production. But as long as cotton prices remain low⁶ investments into higher yields - such as better irrigation systems - are not profitable for farmers and will thus probably not be implemented⁷.

On the other hand, long-term cotton production in the upstream area of Amur Darya and Syrdaria is responsible for the Aral Sea crisis, which is considered as being one of the world's severest environmental disasters (Columbia: 2008). Against this background, it is evident that effective cotton irrigation systems are also in the public interest and even of high importance for people living downstream of the cotton-producing areas.

Marketing of organic cotton and rotational crops

Due to limited volumes, small holders often face high transaction costs in marketing their products. They may simply not get access to markets, unless they can effectively organise and plan their marketing activities (Heierli: 2008). Cotton is an export-oriented crop and as such, its profitability is tightly bound to good marketing practices of the export trader. Beside the threats of GM-cotton, TE (2012b) considers price volatility in global organic cotton market and loss of trust in cotton markets as reasons, why farmers abandoned organic cotton production in the past years. In these circumstances, organizing marketing and maintaining long-term market relationships becomes a crucial activity for organic cotton growers (TE 2012a). In addition, where cotton is grown on relatively large plots (>2ha), the quantity of rotational produce, which is produced on 50% of the total fields, could overburden the farmers marketing capacity.

Marketing of new organic crops starts with small crop quantities and high transaction costs. It only becomes profitable with increasing sales and thus economies of scales. Private actors will do marketing as soon as the income through the commission of sales is higher than the marketing cost. As such, it is in the private interest of traders to market relatively large quantities of a crop.

⁶ The author considers a Liverpool Index < 100 as a low cotton price

⁷ This is the author's conclusion out of her profitability study (HSI 2014c)

In Tajikistan, marketing of organic cotton is managed and financed by SAS organic who charges 3% commission of the cotton price. There are only limited marketing opportunities for rotational crops, since quantity and quality of the produce are not yet considered profitable for private market actors.

In general, the author considers investments in innovations in the public interest. To start with marketing activities of new crops (seen as innovative value-chains), investments are needed to cover the high transaction costs, which are normal for small quantities. The organic value chain project reflects this idea by its financial support for the development of new value chains.

Consultation and training (C/T) in organic farming

The lack of knowledge and innovations systems is a serious impediment to sector growth in Tajikistan (Manser: 2010). Decrease in yields at the national level is observed (Farms: 2006), and only few capacity development programs support the activities of cotton farmers (Shaltova: 2013). According to a study conducted by the FARMS project in Sughd Region (2006), 52% of farms do not use externally provided extension services, while the remaining 48% mainly rely on government services, which are considered as being of low quality. Services provided by the private sector (mostly investors) account only for a total of 5% of farms (Farms: 2006). By 2014, additional SPs for cotton farmers have been established by international organisations. Regarding organic cotton, three extension service providers provide C/T: The farmer cooperative Bio Kishovarz and the NGOs SAS organic and Saodat. Private or public interests attached to C/T depend on their objective and content. In the Tajikistan, C/T on organic cotton include basic knowledge on organic farming methods and bio-regulations. The C/T are a direct precondition for receiving an organic premium and thus in the private interest of the farmers. Through C/T, farmers also learn, how to economize production cost and increase yields. Hence, also farmers “in conversion to organic

agriculture”⁸, who do not yet benefit from an organic premium, have a direct benefit of the trainings.

Although the offered C/T seem to be in the private interest of farmers, they are not ready to directly pay for it. Katz (2002) and Knut & Knierim (2013) explain such behaviour with the fact, that knowledge sometimes does not bring a measurable profit for farmers. Hence, SPs offer embedded services more and more and combine extension services with marketing activities, input supply and/or financial investments.⁹ Offering embedded services and directly benefitting from marketing activities, RAS providers prefer to work with farmers who have large and fertile fields and which are easy to access.

From a perspective of poverty reduction, it is in the interest of the public to provide C/T also to remote farmers with smaller, less fertile or irrigated fields. It is on this point, that public funds are needed to assure that SPs access the targeted group.

Internal control system and external certification

To reduce transaction costs of certification, small farmers are certified in producer groups. For such group certification, farmers need to be well organised and a sophisticated internal control system (ICS) must be set up. Eventually, the production processes are inspected and certified by an external certification agency. (Heierli: 2009)

In Tajikistan, the ICS and marketing activities are organized under the same institutional entity (SAS organic). The ICS and external certification is financed through levies of the sold organic cotton, resp. through a percentage of the organic premium paid by the cotton buyer. With economies of scales, the certification costs per ton of cotton fibre decrease with increasing cotton production and sales.

Both, farmers and buyers have a private interest in organic certification: Higher sales price and secured reputation for farmers, resp. controlled organic produce for buyers.

⁸ Annual crops can be sold as “organic” only after 24 months of conversion period (= after starting with organic farming) (Eyhorn: 2005)

⁹ For a definition of embedded services, see Schmidt: 2013

7 Discussion

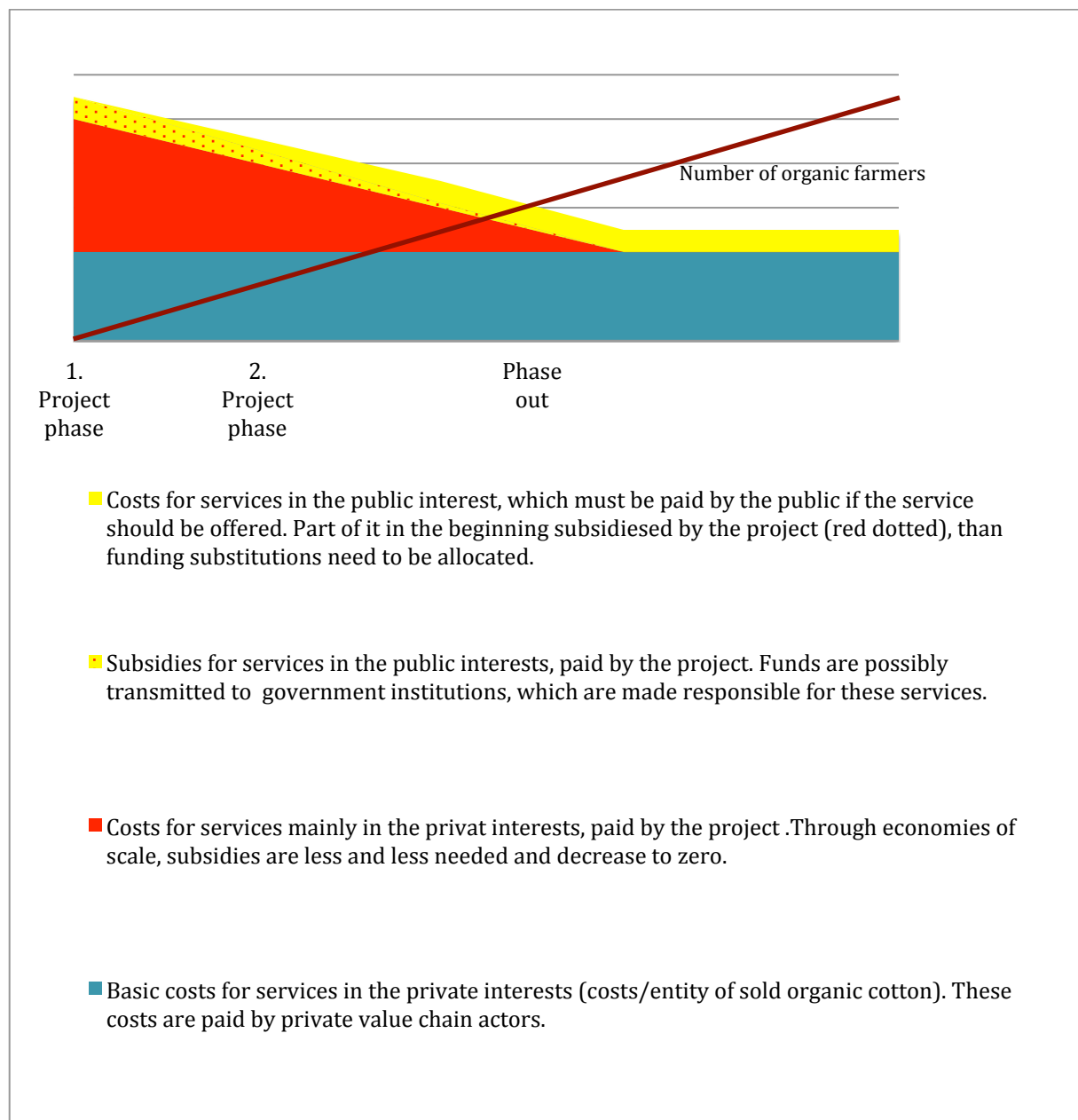


Figure 5: Development of costs and subsidies for services in the public (yellow/red dotted) and private (red/blue) interest during the course of a project's time.

In northern Tajikistan, organic cotton is produced in the framework of a HSI project. The project is still subsidizing some RAS services. Some of them are mainly in the public interests e.g. providing poor farmers with services, train female farmers to work as field advisors or provide SPs with international expertise on organic farming. Some subsidized services with

public interests attached, are also in the private interest of the SPs. These are seed supply, irrigation technologies or trainings to farmers. Some services, which are in major part in the private interest of farmers and SPs, are fully paid by themselves, e.g. sales and transportation of fibre, ginning cotton and in future also internal control and certification procedures.

When private and public interests fall together, a market-oriented RAS system has the potential to become financially sustainable. The question of who finances the services, which are in major part in the interest of the public, remains. Agricultural projects that strive for poverty reduction, equal gender relations and social equity, probably develop RAS, which are to at least some amount in the interest of the public. Only when the public financially supports such services, SPs will be able to provide them in a sustainable way and thus reach a project's long-term goal. In his reflection on the Kirgiz RAS system, Schmidt (2012c) claims that public funding for rural advisory services is justified. He further claims that in a development context, this funding can well originate from international donors. However, Schmidt (2012c) emphasizes, that at least part of the funds should be rooted through government institutions for awareness and capacity building.

Hence, a project should define jointly with government institutions, SPs and possibly clients, specific public and private interests attached to RAS.

Subsidies of services in the private interests with high development costs can be transmitted directly from donors to SPs. The price of these services decreases with increasing production or number of farmers. Accordingly, these subsidies will decrease to zero during the course of the project-time (red part in figure 5). From the beginning, the private actors should come up for the basic service costs (blue part in figure 5). In parallel, the funds, which are directed to services in the public interests, should possibly be transferred to government institutions (red dotted part in figure 5). They should be responsible for the management and provision of services in the public interests. During the course of the project-time, the government should replace those funds either by its own means, or by additional donor's funds (yellow part in figure 5). This may look like an idealistic approach in a development context.

However, only if there is a sustainable source of funds, service providers will offer services in the public interests – which are often the core of poverty reduction projects – for a longer term.

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