

## Goat value chains as platform to improve income and food security: the case of imGoats in Inhassaro district, Mozambique

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### Abstract

Innovation platforms are increasingly used as spaces for interaction between actors in value chains to overcome barriers to development. It involves continuous learning and capacity building – both in terms of innovation capacity and specific technical or organizational capacities. Despite the increased use of Innovation Platforms in the context of value chains, there are several questions regarding their practical implementation. This paper aims to gain some insight in their formation and management by sharing experiences from an Innovation Platform for a goat value chain in Inhassoro District, Mozambique. Since the first meeting in May 2011, some of the main lessons include: an Innovation Platform can provide an important mechanism for communication and information exchange to enhance collective action; however, its establishment takes time and needs a lot of facilitation by the project team in the initial stages to ensure proper functioning; moreover, the design and implementation needs to be adapted and negotiated with intended beneficiaries to accommodate seasonality aspects of goat production and marketing, as well as local physical, social and cultural conditions, such as travel distance and literacy rates, gender inequality, and the role goats play in people's livelihoods.

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### 1. Introduction

Over the last decades, growing populations, urbanization and economic growth in developing countries have led to an increased demand for livestock products, including goat meat (Delgado et al., 1999; Hall et al., 2004). Growing local and informal markets provide opportunities for the poor (Kaitibie et al., 2008), but also various challenges, for example: smallholders are confronted with problems regarding inputs, such as feeds, breeding and health service delivery, while outputs are constrained by weak linkages between farms and markets, and a lack of supportive policies (McDermott et al., 2011).

There is an increasing interest from donors, development workers, policy makers and researchers to use a 'value chain approach' to reach development objectives (see Swaans et al., in progress). A value chain refers to the network of different functions or stages from production to consumption of a certain commodity or product, including the interrelationships between the main actors along the chain and all the ancillary support services (Kaplinsky and Morris, 2001). Value chains are ideally governed by market forces, but especially in developing countries, market failures often lead to sub-optimal performance of the chain and limited participation of the poor.

To overcome institutional constraints and market failures, Innovation Platforms – spaces which allow individuals and organizations to come together to address issues of mutual concern and interest – are becoming increasingly popular. The purpose of Innovation Platforms as a form of collective action is not just to address institutional constraints and overcome market failures, but to overcome these barriers

because they hamper development (see Van Rooyen and Homann, 2009; Nederlof et al. 2011; Nederlof and Pyburn, 2012). Hence, it is argued that a value chain approach in combination with Innovation Platforms can contribute to development outcomes like increased incomes and food security.

However, despite the increased use of Innovation Platforms, there are several questions regarding their practical implementation, e.g. what are the benefits and costs and how are they distributed across stakeholder groups and over time; what is the most efficient and effective form for an Innovation Platform to take, given its objectives; or how best to establish, facilitate and manage an Innovation Platform.

We aim to provide some insights in these questions by sharing our experiences from a project on goat value chains as platforms for reducing poverty and increasing food security in dry-land areas in Mozambique.<sup>1</sup> Below a short description is given of the project setting, before we outline the main focus of this paper and questions addressed in section three. In section four, we will present the approach and the way Innovation Platforms were implemented in practice. Subsequently we will present the main findings so far in section five, and close with some lessons learned.

## **2. The imGoats project in Inhassoro District, Mozambique**

Goat production and marketing are important livelihood options for rural communities in the dry-land regions in Mozambique. However, these activities are often carried out on an ad hoc, risky and informal basis with little benefit to the communities. The imGoats project was designed to increase incomes and food security in a sustainable manner by enhancing pro-poor small ruminant value chains in Inhassoro District. The overall aim of this 30 month project (Jan 2011-June 2013) is to transform goat production and marketing to a sound and profitable enterprise and model that taps into a growing market. The main target beneficiaries of the project are poor goat keepers, especially women and other marginalized groups. Other beneficiaries include goat value chain actors such as small-scale traders and providers of inputs and services (ILRI, 2010).

### **Setting the Scene**

Inhassoro district is located in the northern part of Inhambane province, in Southern Mozambique (Figure 1). While Mozambique has a population of 23.9 million inhabitants and the population density is approximately 30 inhabitants per km<sup>2</sup> (INE, 2010), Inhassoro District has a population of 52,275 inhabitants with a population density of 11 inhabitants per km<sup>2</sup> (MAE, 2005). About 80% of the Mozambican population depends on agriculture for their livelihoods. In Inhassoro District, the total area of land cultivated by families is 26,626 ha, approximately 5% of the area of the district.

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<sup>1</sup> The official title of the project is “Small ruminant value chains as platforms to reduce poverty and increase food security in dry land areas of India and Mozambique” (imGoats)

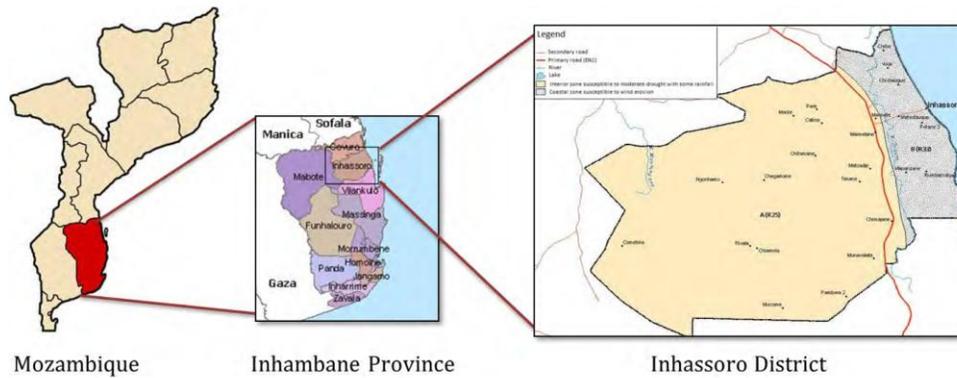


Figure 1: The project area was the district of Inhassoro in Mozambique’s Northern Inhambane Province. (Source: ILRI, 2012)

Sixty per cent of the population lives below the international poverty line (USD 1.25 a day) and 55% below the national poverty line (UNDP, 2011). Poverty is more concentrated in the rural areas than in the urban areas (ILRI, 2011). In terms of gender inequality, Mozambique scores 0.60 on the Gender Inequality Index (a measure of inequality in achievements between women and men in reproductive health, empowerment and labour) and ranks 125 in the world (UNDP, 2011). The literacy rate is in between 48% and 55% (INE, 2010; CIA, 2011; UNDP, 2011). The predominant language in the district is Xitswa although children also learn Portuguese at school. Mozambique has a tropical climate with two seasons; the summer (October-March) is rainy and humid with high temperatures while the winter (April-September) is drier with lower temperatures (INE, 2010).

### Goat value chain

In terms of livestock production, the country’s livestock population was severely depleted during the civil war that ended in 1994. In 2010, the province had almost 416,000 goats, which is about 11% of the national flock (INE, 2010). In 2007, the government livestock census identified 14,315 goats in Inhassoro District; the number is currently estimated at about 34,700 goats (Peham, 2012). There are about 5,000 smallholders keeping cattle and goats in the district with an average of eight goats per household (minimum 1; maximum 30), with a median of six (ILRI, 2012).

Crop production is the main occupation for most smallholders in Inhassoro District, whereas goat keeping is a side-occupation (ILRI, 2012; Maciel, 2009). Motivations to keep goats can be divided in two categories: 1) sell goats to be able to pay for food, school fees, health mostly 2) use live goat (i.e. non-sales) for occasions such as consumption on special occasions, ceremonies, in exchange for products or service, social status among others (Boogaard and Moyo, in progress).

The imGoats baseline study (ILRI, 2012) showed that about 64% of the goat keepers sold goats, though in an ‘informal way’. The main buyers of goats were individual traders (43%) and other smallholder goat keepers (22%). Most sales (79%) took place at the trader’s house and payment was made in cash at the time of the transaction (ILRI, 2012). Key value chain actors in Inhassoro district include smallholder goat producers, aggregators (itinerant house-to-house buyers), traders/slaughters, paravets and veterinary



#### 4. Intended approach and implementation in practice

As goat value chains are complex and comprise many different sets of people and organizations with diverse interests and incentives, an innovation systems approach was used to stimulate interaction among actors along the value chains from the outset to ensure that innovation takes place. *Innovation systems* approaches place emphasis on the involvement of a wide range stakeholders from the start; joint problem identification; integration of expert/research knowledge with local/indigenous knowledge; market information and consumer demands, policy and regulatory environment; capacity building; and the development of solutions through (technical, organizational, institutional and policy) innovation (ILRI 2010).

In the case of imGoats, the interaction between value chain actors takes place through Innovation Platforms which are described as “spaces for actors to meet, communicate and act to improve performance of the value chain and the resulting benefits to the actors” (ILRI, 2010). It involves continuous learning and capacity building. A key role within innovation platforms is that of *innovation brokers*, individuals or organizations, in this case CARE, an international NGO with many years of experience in Mozambique, who facilitate and support platforms (Klerkx, Hall and Leeuwis, 2009).

#### Intervention logic and impact pathway

The overall intervention logic used in the imGoats project is presented in Figure 3. Due to a delay of the start of the project, the Innovation Platform (IP) was established before the baseline was conducted, based on previous information collected on the project area and the goat value chain.

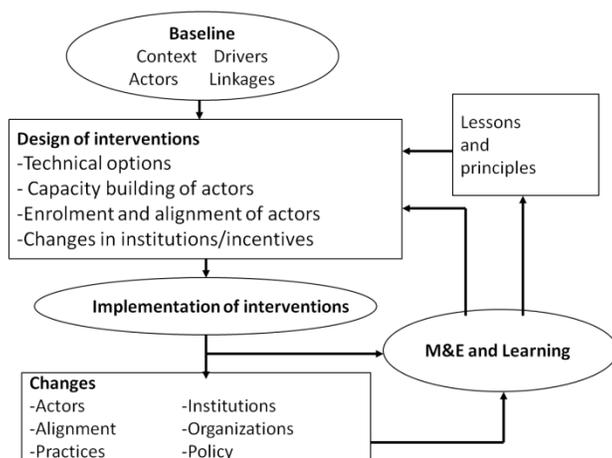


Figure 3: Intervention logic followed in the imGoats project

Since the project deals with behavioural change of different value chain actors the imGoats uses Outcome Mapping, a participatory M&E framework focused on changes in knowledge, attitudes, capacities, and practices of value chain actors (Earl et al., 2001), while log-frame indicators were used as a benchmark to assess the performance of the value chains and innovation platforms.

## Implementation

ILRI established a partnership with CARE International in Mozambique, whereby CARE is the key implementing partner, while ILRI is responsible for the overall leadership and coordination of the project. This allowed the expertise in development and implementation of the NGO to be closely tied to the scientific expertise and learning tools of an international agricultural research institute. CARE was selected based on their history of collaboration and experience in with value development<sup>2</sup>, but the concept of Innovation Platforms was new to them. Training was provided on Innovation Platforms in the context of value chains to project staff at the start of the project. To support the project in terms of research, ILRI had one post-doc researcher based at the CARE office (Vilanculos), ensuring a close day-to-day collaboration, supporting reporting on the Innovation platform process and conducting action-research.

The imGoats project works in 22 communities in Inhassoro District reaching about 450 households. It was decided to work with one Innovation Platform (IP)<sup>3</sup> in the District given that apart from the goat keepers the other value chain actors would be the same. The first IP meeting was held in May 2011 and up to December 2012 seven IP meetings have taken place. The first meetings were led and facilitated by CARE/ILRI, whereas from the 5<sup>th</sup> IP meeting a secretariat, established by the IP, has gradually been taking over the process. The project conducted the following implementation steps related to the establishment and functioning of the IP process:

1. **Identification and invitation of goat value chain stakeholders:** smallholder goat keepers that are represented by the leaders of their groups, buyers (also from outside district), paravets (trained by the project), retailer of veterinary drugs, community leaders, District Agricultural Services, Provincial Livestock Services and CARE/ILRI staff (Figure 2). Private investors had been invited to the first meeting, but did not participate (possibly due to language barrier as they are foreigners and most of them don't speak Xitswa or Portuguese).
2. **Invitation of goat value chain stakeholders to first IP meeting**
3. **Election of IP secretariat:** President, Vice-president, Secretary, Councillor (1<sup>st</sup> IP meeting).
4. **Identification and prioritization of main constraints:** 1) Lack of production, 2 Lack of organisation, 3) Lack of infrastructure (1<sup>st</sup> IP meeting).
5. **Identification and implementation of actions** to overcome constraints (2<sup>nd</sup> IP meeting onwards).
6. **Feedback on actions** at the IP meetings (2<sup>nd</sup> IP meeting onwards).
7. **In-between meetings with IP secretariat** to reflect on and prepare meetings (1<sup>st</sup> IP meeting onwards)
8. **Re-elections of IP secretariat** due to weak participation of President (4<sup>th</sup> IP meeting)
9. **Feedback of research results** through illustrative flyer (5<sup>th</sup> and 7<sup>th</sup> IP meeting)
  - a. Feedback of main baseline study results and related actions (5<sup>th</sup> IP meeting)

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<sup>2</sup> CARE had experience with economic development in the region, due to a 7 year project called SEED (Sustainable and Effective Economic Development).

<sup>3</sup> In this document we will write the term 'Innovation Platform' in full, but use the abbreviation 'IP' when used in combination with other words.

- b. Feedback of study on communal pasture areas, including ‘good management practices’ (7<sup>th</sup> IP meeting)
10. **Exercises on IP performance** during IP meetings:
- a. Reflection on information flow and feedback between IP members and VC stakeholders (4<sup>th</sup> IP meeting)
  - b. Reflection on IP sustainability and future (5<sup>th</sup> IP meeting)
  - c. Reflection on functioning and management of IP (7<sup>th</sup> IP meeting).

The project provided transport (CARE cars) for staff (including participants in the beginning), fuel for 2 government officials: 1 local and 1 provincial (300Km away), cell phone credit for IP secretariat to invite participants, lunch for participants (goat stew prepared by community), human resources (i.e. preparation by CARE/ILRI staff), and translation (as facilitation in conducted in the local language Xitswa).

## 5. Findings so far

It is almost impossible to measure the impact of the innovation platform on poverty, income and food security in a 2-3 year timeframe. Although there are indications of improved goat sales through the introduction of goat fairs, the habit of only selling in December/January is difficult to change and makes it difficult to make conclusive statements about this. There are, however, clear indications of changes in practices/behaviour. Especially among producers and paravets there has been a change in goat management practices, e.g. providing access to water and feed, and treating goats against common diseases; the identification of communal grazing areas and the construction of improved goat shelters play an important role in this. In the case of communal grazing areas, the support of the government and local community leaders has been crucial to the process.

To gain a better understanding of the formation, functioning and management of the Innovation Platform, and the challenges experienced, we will focus below on six key elements to describe what went well and less well in terms of the implementation of the innovation platform.

### Participation

Critical to the formation and functioning of an Innovation Platform is the participation and engagement of key actors along the value chain at critical moments, which may refer to innovation platform meetings, as well as resulting activities in between meetings.

Value chain actors were identified through an Outcome Mapping exercise, whereby actors were categorized according to the following categories: input providers (paravets/retailer of veterinary drugs), producers, post-production actors (mainly buyers) and enabling agencies (government agencies/community leaders/CARE/ILRI). Producers and paravets were elected by participants of the producer groups to represent them, while other value chain actors were selected based on CARE’s experience in the area.

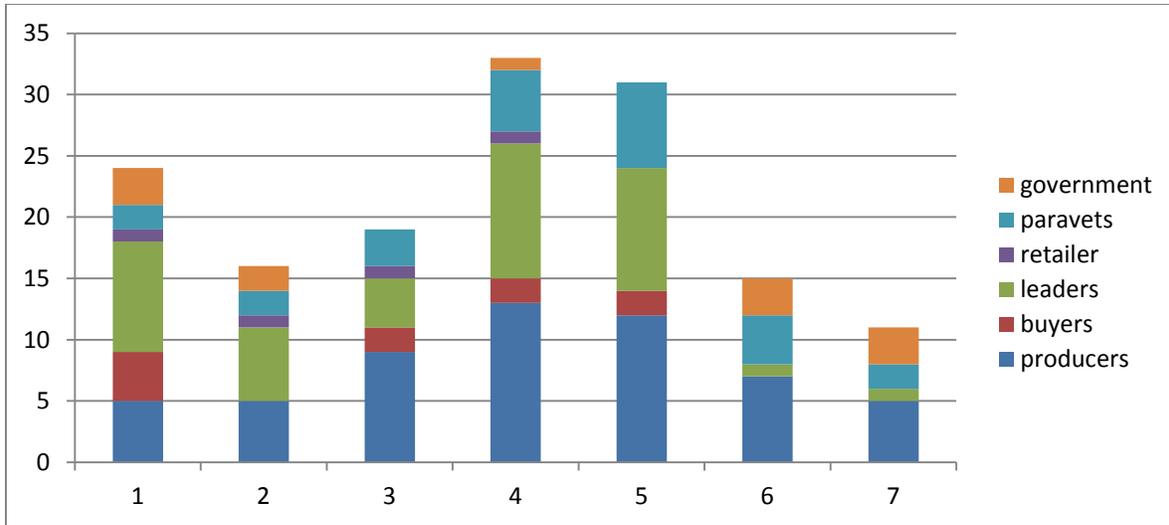


Figure 4: Participation of the value chain actors in the seven IP meetings (without CARE/ILRI staff).

Figure 4 shows the attendance of the IP meeting in absolute number and representation (without CARE/ILRI staff). Although this difficult to derive conclusions based on seven meetings, there are some important trends:

First, in general producers are well represented; their participation increased after the start, but reduced after the six meeting when transport for participants was no longer provided. This also seems to have affected the participation of community leaders. To address this problem, it has been decided to choose one centrally located community for future meetings to increase consistency in participation; however, this may have a negative effect on representation of some far away communities.

Another striking issue is the absence of buyers during the last few meetings. Buyers were initially interested. They stimulated the organization of producers, which allows them to buy an agreed amount of goats at certain dates. However, after the first few goat fairs, their interest faded. While the incentive for producers to participate seems obvious, it is often less clear what other value chain actors, such as buyers get out of the process. This needs be addressed at an early stage.

Finally, the number of women – representing producers (all paravets and almost all community leaders are men), has reduced from 20 out of 52 (38%) in the first four meetings, to 3 out of 27 (11%) in the last three meetings. Initially this may have been related to an increased interest of community leaders (while the number of representatives per community was limited), but also the strong focus on commercialization and marketing – which are considered men’s tasks – and domestic chores may have played a role (Chitsike and Oosterhout, 2012). Also women are not supposed to travel outside the community, with some exceptions. Hence, participation of women in producers group seems much higher (44% during evaluation of producer groups in October 2012).

In general the various actors have been very committed in the meeting, including the government (district and local), but this has not led yet to widespread ownership among the value actors. Although the facilitation of the IP meeting has been handed over to the elected IP secretariat, the process is still strongly supported by ILRI and CARE, which may make it difficult to sustain the platform and/or established linkages after the project ends.

### **Focus and tasks/roles**

Innovation Platforms are most effective when they have a clear focus with identified roles/tasks for its members (Puskur, 2010). Although the various actors have a clear understanding of their ‘role’ in the Innovation Platforms and the value chain, they seem to have a different understanding of what the platform is about and what its main focus is. The focus on commercialization and marketing of goat meat was strongly influenced by ILRI/CARE and the government, which was partly related to former experiences of CARE and the government with cattle projects in the area. However, for goat producers and other community representatives, it was initially difficult to think beyond ‘production’ and to focus on the whole value chain with a commodity focus.

During the baseline survey – which was initiated after the introduction of the Innovation Platforms, it became apparent that goat husbandry in the area is a secondary low input-low output side occupation, which is closely intertwined with crop production at the ‘*machambas*’ (agricultural plot), the main source for food security at the household level. Although goat commercialization may provide a source of extra income and food, this may not be the best pathway out of poverty for all households (Boogaard and Moyo, in progress). What is described as an “activity with low input, carried out at an ad hoc, risky and informal basis with little benefit to the communities” (ILRI, 2010), may in fact carry less risk than engaging in an adventure with unknown outcomes. Moreover, while the current extensive system can be managed by women, a stronger focus on commercialization may have negative implications on the workload of women. It raises the question what the potential is of goat commercialization in the area, and whether a value chain approach using an Innovation Platform is suitable for goat marketing in this case.

### **Communication and information exchange**

An Innovation Platform can play a crucial role in terms of communication and information exchange among actor along the value chain. Within the imGoats project, this has not only led to increased insight in the main constraints and opportunities, but also in collective action around identified strategies. CARE/ILRI, as innovation broker, play a key role in this and raises concerns of what will happen when the project ends in June 2013, in the sense that CARE is the main linkage to all value chain actors. And although quite some information from the platform has reached the goat keepers (e.g. through paravet, community leader or CARE extension staff), there are also many communities where the information flow between the platform and the producer groups is not going well.

### **Problem solving**

Within imGoats, one Innovation Platform was established and participants met regularly (2-3 monthly) for joint problem identification, action planning and monitoring. Instead of describing the various issues which were identified and addressed (see section 4), we would like to highlight here the relationship

between buyers and producers and whether they were able to address differences in supply and demand of goats together. The relation between producers and buyers is crucial in a value chain project and one of the main promises of Innovation Platforms. In the case of imGoats, producers and buyers identified the problem together (lack of organisation), they solved it to some extent with large support from CARE (organization of goat fairs), but at the last goat fairs buyers failed to show up, due to variety of reasons (lack of money, unreliable provincial markets, etc.). This may be related to trust relations between producers and buyers, as those relationships were relatively new and it takes time to build commitment and trust between value chain actors. Moreover, the lack of buyers also affected trust relations between producers and the IP secretariat and CARE/ILRI, who organized the fair; producers had goats available for sale and were expecting to gain some money, whereas in the end CARE/ILRI and the IP secretariat could not fulfil this promise due to the lack of buyers. It shows the challenges in collective problem solving among actors with different interest and a lack of trust. One can question whether an Innovation Platform is the most appropriate mechanism to build trust relations, especially in a context where value chains are largely absent or in infant stage.

### Capacity building

Capacity building is one of the key elements when implementing an Innovation Platform; technical and organizational capacity needs and opportunities were diagnosed during the baseline study and the first few meetings, and actors jointly developed a strategy for addressing them (with support from CARE/ILRI).<sup>4</sup> Trainings mainly focused on producer and paravets and to some extent on extension officers, with a strong focus on production and technical issues; also regular visits by extension officers and the exchange of information between members of the platform can be seen as a form of capacity building. These were often informed by regular feedback of research results, e.g. on baseline studies, study on communal grazing areas, etc; crucial in this respect has been the timely feedback and the development of easy understandable flyers with key findings and graphics.

What has been lacking though is the identification of training needs among other actors, including that of the innovation broker CARE. Training is not only an important tool to raise knowledge and skills, but also for trust building and create commitment and ownership. This is clearly illustrated by the commitment of the paravets to the project. A stronger focus on other actors could possibly have contributed to stronger participation and interest. Also the training of skills of innovation brokers and the IP secretariat are important, e.g. in relation to management and facilitation, but also in terms of gender. Gender was a priority issue during the introduction of the project, but so far, a gender perspective has been insufficiently integrated in the design of the Innovation Platform, e.g. in terms of: participant selection and representation; the schedule, time, and location of meetings, the identification of constraints and solutions; and the implications of identified interventions. This shows the importance of gender training, not only for participants, but for the project team and management as well.

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<sup>4</sup> Although needs and interests were identified, there has been less emphasis on assessing knowledge and skills among members of the platform.

## Management

ILRI and CARE were responsible for the implementation and facilitation of the Innovation Platform. The post-doc from ILRI played a significant role as part of the project team in the organization and support of activities, and in terms of research and documentation. The research element was new to CARE and highly appreciated; they mentioned that it had played an important role in better understanding the local context and the identification of constraints and solutions. But at the same time CARE management mentioned that the Innovation Platform resulted in additional field activities, which had not been anticipated before and as such required more (human) resources than initially expected.

Initially the ILRI/CARE project team played a strong role in the establishment and facilitation of the platform, which has slowly handed over to the IP secretariat. The secretariat was elected by the members of the platform (among themselves) after one meeting. It takes times to develop a well functioning secretariat, which needs regular reflection on the performance and composition. Although the IP president is very active and engaged, the secretariat is yet not able to lead to the meeting without the support of CARE. In addition, some of the secretariat members are not very active and need to be replaced through elections.

In general, the members of the platform mentioned that they are satisfied with the facilitation and management of the project. Although there was some initial steering by ILRI/CARE in terms of agenda setting, participants seem to appreciate some guidance – especially in the beginning. CARE and ILRI have clearly positioned themselves as an innovation broker in the project, trying to link the knowledge, skills, capacities, and resources from different players, but a clear exit strategy is lacking, making the continuity of the Innovation Platform uncertain. Also the uncertainty and short time frame for the funding has caused problems in terms of staff changes and recruitment and hence the quality of support.

## 6. Lessons learned

Key lessons learned from the implementation of the Innovation Platform in the imGoats project in Mozambique, are:

1. Innovation Platforms can provide an important mechanism for communication and information exchange to enhance collective action. Often the focus of the Innovation Platform evolves over time, starting with production issues and graduating towards commercialization.
2. A scoping exercise, including value chain and gender analysis during the inception phase of project is important to gain a better understanding of the context, as well as the constraints and opportunities; this should be followed by training on Innovation Platform and other relevant concepts for *all* project staff.
3. The design of Innovation Platforms and their implementation needs to be adapted to and negotiated with the intended beneficiaries; living conditions and contextual factors, such as long

distances, gender inequality, illiteracy rates, and use of local languages, have a direct impact on the functioning of the platform.

4. In case of goat meat value chains, relevant issues to be addressed at the Innovation Platforms are season dependent; this has implications for participation of value chain actors and hence the management of the platform.
5. Information exchange/communication beyond the platform, e.g. with producer groups, input/service providers and enabling agencies, is crucial to ensure that decisions made in Innovation Platforms are relevant, widely supported, and will be implemented in practice.
6. Involvement of enabling agencies, such as district and provincial government (Vet Services) was important to support the IP secretariat and address some of the constraints identified by the members of the platform.
7. Innovation Platforms require a lot of facilitation by the project team in the initial stages to ensure proper functioning; handing over to local actors is crucial for continuity, but it requires time, capacity and respect from other members of the platform.
8. Establishment of Innovation Platforms takes time, as such Innovation Platforms should be used in livestock value chain projects of at least *three years or more*, however, they should not be seen as permanent structures – they could dissolve or change, as long as innovation mechanisms are in place.
9. Continuity of Innovation platforms depends on capacity to resolve value chain constraints; it needs to be clear to different value chain actors what they will get out of participation in the process.

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