

“Gendered and systemic constraints and opportunities to fodder production systems in Afghanistan”

Conceptual Framework

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1. Introduction

Estimates suggest that 8 million Afghan households are dependent on incomes derived from crop production and livestock rearing. Livestock provides a source of income and nutrition, as well as an economic asset which can be sold in time of dire need. Shortage of forage (quality and quantity) limits animal productivity and introduces economic risk to the household, particularly over cold winter months. Lack of quality seed of improved forage varieties, poorly functioning seed and fodder markets, and biased national policy towards production of strategic food crops, among others, constrains economic incentives for sustainable forage production and marketing.

In line with these concerns, one aim of the broader initiative is to develop economically viable and sustainable forage production systems in order to reduce winter feed gaps within the water constrained provinces of Baghlan and Nangarhar. A second is to enhance national uptake of research outputs through more effective linkages between national and international research systems and pluralistic (public, private, civil society) input, marketing and service providers.

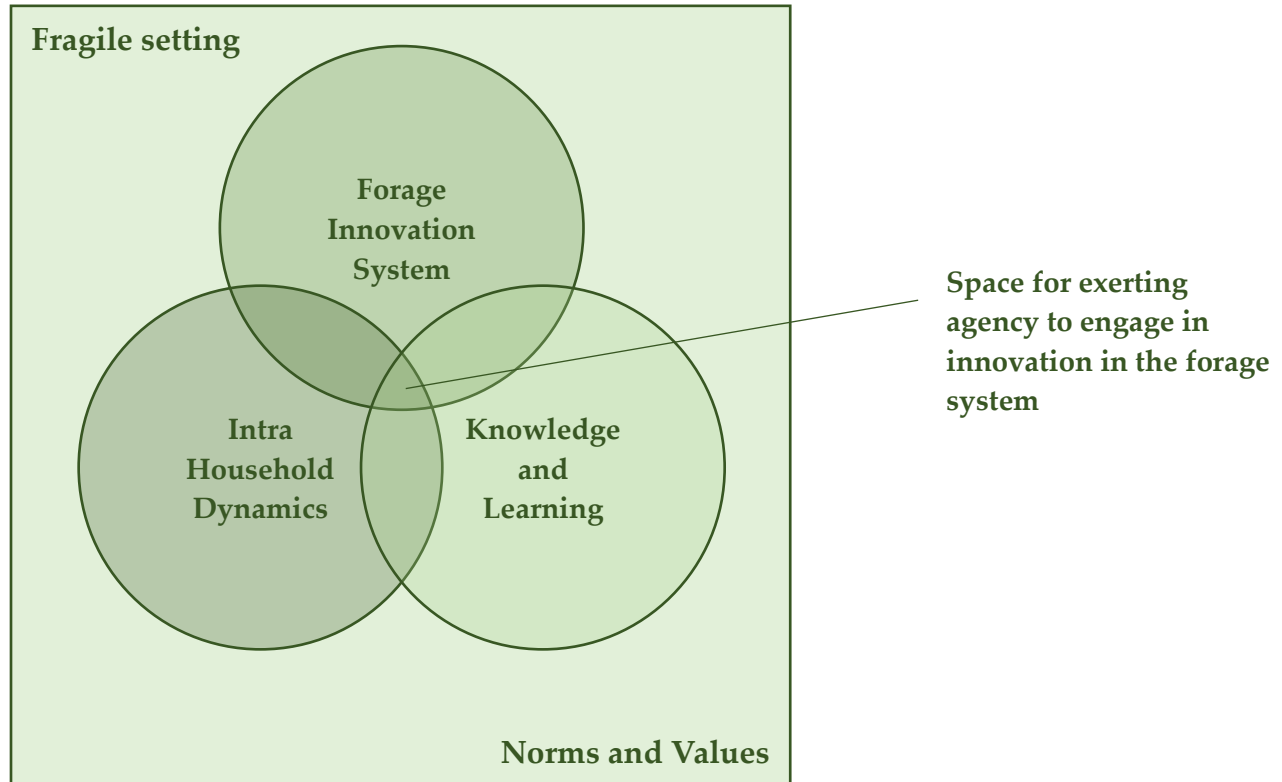
In recognizing that women play important roles within integrated crop and livestock production systems, this joint collaboration between ICARDA and KIT aims to uncover avenues for enhancing equitable access to knowledge, public and private services in the development of forage production systems which are socially and economically sustainable. The research also aims to yield significant insight and learning into how female farmers (and rural women more generally) secure access to opportunities for gaining knowledge and learning within embedded social and cultural norms which often restrict female participation.

The conceptual framework presented is a result of a literature review informed by diverse sources of information, peer review documents and grey literature. The framework is based on the premise that women and men face different constraints and opportunities to make (or contribute to making) improvements to the forage system for their benefits. In addition, we assume that these different constraints and opportunities are determined by (i) the forage innovation system (i.e. the actors, their actions and interaction involved in forage value chains, as well as the enabling environment) they are part of, (ii) the intra-household dynamics and (iii) the ways knowledge is generated, exchanged and applied. (see Figure 1). The constituent parts of the framework comprise the following:

- The forage innovation system, including its enabling environment
- The intra-dynamics households

- Knowledge generation, sharing and application

Figure 1 Conceptual Framework



We are particularly interested in the interfaces between the different components, i.e. the ways the different elements reinforce each other (or the contrary) . Through this research we ultimately aim to:

gain insight in the existing space for women to exert agency to engage in innovation in the forage system as a way to improve their livelihoods and contribute to transformative change.

This will eventually contribute to better design interventions geared towards empowering women in rural Afghanistan through their engagement in forage production and value chains. We hereby recognize that “women” and “men” are not a homogeneous social categories but there is diversity among them as influenced by different social markers.

The three components are strongly influenced by the context they are part of: the fragile setting and the existing social and gender norms and values, i.e. a set of social rules and assumptions

about what women and men should do, how and with what resources, and the position and status of individuals and their relative value in Afghan society.

Fragility is defined as the combination of exposure to risk and insufficient coping capacity of the state, system and/or communities to manage, absorb and mitigate those risks (OECD, 2016). A state is fragile when it is unable to provide for basic human security or create the public goods and conditions necessary for improved human development (Cilliers and Sisk, 2013). Often – although not always – fragility is linked to political violence and conflicts, both as cause and effect (OECD, 2016).

Conflict-affected areas, such as Afghanistan, are particularly fragile and can easily be caught up in a vicious cycle in which conflict undermines governance and development, and high political and security fragility further exacerbate conflict (Cilliers and Sisk, 2013). Such areas are *“environments in which a significant proportion of the population is acutely vulnerable to death, disease and disruption of livelihoods over a prolonged period of time. The governance of these environments is usually very weak, with the state having a limited capacity to respond to, and mitigate, the threats to the population, or provide adequate levels of protection”* (Macrae and Harmer, 2004, p. 1). The multidimensional nature of fragility can be seen in the OECD fragility framework (Table 1) which is built around five dimensions – economic, environmental, political, societal and security fragility.

Table 1. Five dimensions of fragility

Dimension	Description
Economic	Vulnerability to risks stemming from weaknesses in economic foundations and human capital including macroeconomic shocks, unequal growth and high youth unemployment
Environmental	Vulnerability to environmental, climatic and health risks that affect citizens’ lives and livelihoods. these include exposure to natural disasters, pollution and disease epidemics.
Political	Vulnerability to risks inherent in political processes, events or decisions; lack of political inclusiveness; transparency, corruption and society’s ability to accommodate change and avoid oppression.
Security	Vulnerability to overall security to violence and crime, including both political and social violence
Societal	Vulnerability to risks affecting social cohesion that stem from both vertical and horizontal inequalities, including inequality among culturally defined or constructed groups and social cleavages.

Source: OECD, 2016

The characteristics of fragile contexts make them some of the most difficult contexts for the international community to engage with and requires a different approach than for contexts hit by short crises followed by a return to some degree on long-term improvement (FAO, 2010) This is especially important in settings where innovations are being sought to address complex situations and that engages multiple stakeholders. This research will explicitly aim to provide insight in how fragile setting influences (positively or negatively) the possibilities of individuals to actively engage in innovation processes related to forage production and value chains.

2. Forage Innovation Systems

Smallholder forage producers and livestock farmers as well as other actors involved in the forage value chain in Afghanistan face complex constraints and uncertainties. Schut (2015) defines *complex problems* as problems (1) that have multiple dimensions, (2) that are embedded in interactions across different levels (e.g. niche, landscape and regime) and (3) where a multiplicity of actors (often with different interests and perspectives are involved. Limited forage production and productivity, state fragility, insecurity, malfunctioning market systems, and climate change are some of the threats to the livelihoods of families and individuals involved in forage systems in Afghanistan. To address different threats and opportunities, innovation is imperative. Innovation involves not only diverse stakeholders but also new roles and relationships that sustain knowledge generation and learning for technical and economic successes, and environmental sustainability (Nederlof, 2011).

Agricultural Innovation Systems (AIS) provide a useful framework for analysing complex situations that actors face in a particular sector – looking at the whole and making links between the various parts. AIS provide a perspective to gain understanding of the forage production and value chain, and the constraints and uncertainties, as well as the opportunities, for smallholder forage producers (women and men) and other actors to address these constraints and uncertainties for their social and economic benefits. Systems are defined as “relationships and linkages among elements within arbitrary boundaries for discourse about complex phenomena to emphasize wholeness, interrelationships and emergent properties” (Röling 1992). Integrated systems are complex wholes in which a range of social and bio-physical processes interact across various levels and scales. Re-orienting the dynamics of systems in favour of realizing desirable outcomes is essentially about changing the way people interact with each other and

respond to their changing environment. (Leeuwis et al 2014). As such, recent approaches to agricultural innovation are increasingly rooted in (soft) systems thinking. The focus on actors, their perspectives, their intentions, and their interrelationships within the wider context makes it a useful approach for dealing with the complexity in which smallholder farmers operate.

The AIS perspective places great emphasis on understanding the nature of relationships between actors, and the attitudes and practices that shape those relationships. Relationships promote interaction and interaction promotes learning and innovation (World Bank, 2012). An innovation system can be defined as *“a network of organizations, enterprises, and individuals focused on bringing new products, new processes, and new forms of organization into economic use, together with the institutions and policies that affect their behaviour and performance”* (FAO working definition, Hall et al., 2006 ,).

With *“forage innovation system”* we refer to the *network of organizations, enterprises, and individuals focused on bringing about change (or innovation) related to the forage value chain and its contribution to social and economic well-being of smallholder framers and other actors together with the institutions and policies that affect their behaviour and performance”*.

Novel ideas such as the introduction of the new accessions, seeds or vegetative reproductive material cannot be separated from innovation processes that foster knowledge sharing, interaction, and capacity development. With *innovation process* we refer to the process of generating and putting into use new ideas, knowledge, technologies, organizational or institutional arrangements. Innovation as an interactive learning process requires the integration of ideas, knowledge, experience and creativity from multiple actors through networking, linkage creation and partnerships (Leeuwis, 2004). Effective interaction is needed between farmers, business, service providers, research, development organizations and other stakeholders to enable innovation to take place.

Nowadays, women’s engagement in the agricultural sector is not only a right, but it is imperative to agricultural innovation (Byravan, 2008). Still, too often the positions, roles, challenges and opportunities of different groups of farmers have not been taken into account in these processes (ICARDA, 2016). It has been observed that women and men farmers relate differently to the forage innovation system. Studies have highlighted that projects and interventions for agricultural development and innovation too often fail to consider the needs, roles and responsibilities of women farmers. This is alarming considering that women farmers may face systemic discrimination, and that social and economic institutions often do not take into consideration women’s knowledge, their agricultural contributions and/or previous

experiences (Maguire, 2014). The “invisibility” of women is also observed in institutions and policies that promote agricultural development (Hall et al. 2007). The lack of understanding of agriculture as a social practice can lead to a range of unintended negative consequences, from the non-adoption of new technologies to the decreased benefit for women (Kabeer, 2000). By not viewing gender as part of how the system functions, one accepts the ‘status quo’ without questioning whether and how existing norms, attitudes, and power distribution frame the opportunities and consequences of women and men to create inequalities. Hence, through this research we aim to create insight in the position, the roles and the opportunities and constraints for innovation in the forage innovation system from a gender perspective.

Research questions

Main question: What are the systemic and gendered opportunities and constraints for innovation in the forage system in Afghanistan?

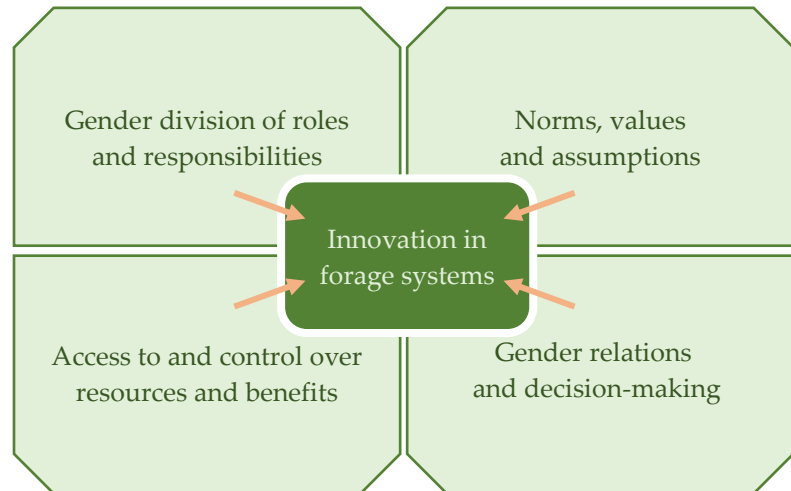
Sub-questions:

1. How does the forage system (fodder value chain, including seed system, input supply, production, post-harvest, marketing, utilisation) look like?
 - a. Who are the actors (m/f) including chain actors, service providers, regulators, enablers,? Who are included in / excluded from what activities?
 - b. What are their respective roles/activities, ambitions, preferences, and interests in the forage system?
 - c. How do they interact? What are their respective levels of power / influence?
2. What are the formal and informal institutions influencing / regulating the forage and fodder system, the actors, their actions and interactions,...)?
3. How are different women and men differently positioned in the forage innovation system. How does intersectionality affect their possibilities to innovate and exert influence?
4. What are the main drivers and factors (opportunities and constraints) affecting innovation in the forage system? How do these factors affect women and men differently? What are women and men’s possibilities to influence these factors?
5. How does the introduction of new varieties contribute to change in the forage innovation system (intended and non-intended change)? How does it affect men and women farmers and their social relations??

3. Intra-household dynamics

Gender-specific opportunities and constraints, such as unequal negotiation of power inside the household, imply that men and women are differently engaged in agricultural production and value chains. The extent to which women and men are able to engage in innovation in the forage system is highly affected by the intra-household dynamics. A complex range of factors determine intra-household dynamics. Van

Figure 2 Intra-household dynamics framework (adapted from van Eerdewijk and Danielsen)



Eerdewijk and Danielsen (2015) propose an useful framework to look at better understand gender differences in agricultural development. It suggests that gender differences are linked to the gender division of roles and responsibilities, the differences in access to resources and benefits between women and men, gender inequitable decision-making processes, and gender norms, values and assumptions . Through this research we aim to provide insight in how intra-household gender dynamics, and especially the four dimensions, affect women’s opportunities to innovation in forage production and value chains.

Gender division of roles and responsibilities

To understand innovation processes, one needs to look at the division of roles and responsibilities at the level of the household, and how this affect the members of the household. The gender division of roles implies that women and men are referred differently to public and private spheres. Women are usually considered ‘natural caregivers’ and men ‘benevolent dictators’ who have to fulfill material needs of the household. Women are more in charge of reproductive and community activities and receive little recognition for unpaid work. The unitary view of the household suggests that women’s and men’s roles and responsibilities are separate but complement one another. However, it is important to note that gender roles are dynamic and cut across diverse social identities (e.g. ethnicity, class and age). This means that neither men nor women can be grouped as a “one dimensional” category. Research needs to

consider how gender interact with an individual's overlapping social identities, and how this intersectionality influences, and are influenced by, gender roles and responsibilities.

This calls for a better understanding into who does what in forage production and value chains. It is also important to gain insight in what capacity (owners, managers, decision-makers, etc.) different household members play their different roles. The gender division of roles and responsibilities has implications for the opportunities to innovate in forage production and value chains by different household members.

Access to and control over resources and benefits

Gender differences, resulting from socially constructed norms and the relationship between women and men, affect the distribution of resources between women and men within households and in communities, resulting in differences in their livelihood options (Sass, 2001). Kristjanson et al (2010) found that women in livestock production are disadvantaged by their lack of access to complementary assets, such as land for growing forages, inputs, services, finance and information.

Gender disparities also persist with respect to access to and control over benefits, affecting the opportunities and preparedness to take risks and innovate. In general, women farmers receive lower prices for produce and have relatively less access to markets. In addition, once becoming profitable, men typically move into women's activities. The risk of male capture of control over resources and benefits can affect women's opportunities to innovate. (Van Eerdewijk and Danielsen, 2015)

Access to and control over resources and benefits, influence the individual's opportunities to innovate in forage production and value chains. Hence the need for insight in gender differences related to access to and control over resources and benefits.

Gender relations and decision-making

Households are not uniform and do not act in a unitary manner when making decisions or allocating resources. Decision making refers not only to who does what with which resources, but is especially a matter of who controls these divisions, and who has what say in decisions. For example, within households, women and men often have different preferences on how to utilize or pool their resources' (Van Eerdewijk and Danielsen, 2015). Decision making also refers to decisions related to who interacts with what actors outside the household, and how.

Intra-household decision-making processes affect women's and men's opportunities to innovate. Within households, a range of decisions are being made about what forage crop will be planted, by whom, where and how, what inputs will be purchased, which parts of the harvest are sold, which parts are kept and stored for the household's own livestock, and on how the benefits derived from the sales are used. Decisions are also made on who is to conduct what task at what stage of the production cycle and along the value chain. The dynamics around who takes these decisions vary greatly between male and female headed households and highly influences the opportunities and ways women and men engage in innovation in the forage production and value chain.

Gender norms, values and assumptions

Gender norms draw upon and reinforce gender stereotypes, which are widely held, idealized beliefs and expectations about what it means to be a woman and a man. However, gender norms are dynamic and prone to change. A first concern here is to look at the value that is given to the different roles of different household members. With respect to women, this requires insight into the extent to which their roles are recognized, as well as insight into the value that is attached to them. This dimension reveals some major assumptions behind the gender division of roles. In addition, other strong values affecting women's roles, constraints and opportunities can come to the fore. These can include norms related to women's involvement in financial transactions, their mobility, their knowledge, but also to for instance their position and role in the innovation system. (van Eerdewijk and Danielsen, 2015).

Research questions

Overall questions: How do intra-household gender dynamics affect women's opportunities to innovation in forage production and value chains?

Sub-questions:

1. What are the main types of HHs engaged in forage production?
2. What is the significance of forage production in the livestock system and livelihoods of the different types of HHs?
3. What are roles of women and men related to forage production (i.e. the whole chain) in different types of HHs
4. What is the difference in access to and control over resources and benefits related to forage production within different households? How does this differ among different types of HHs?

5. What are the differences in decision making related to forage production and innovation between women and men in different households?

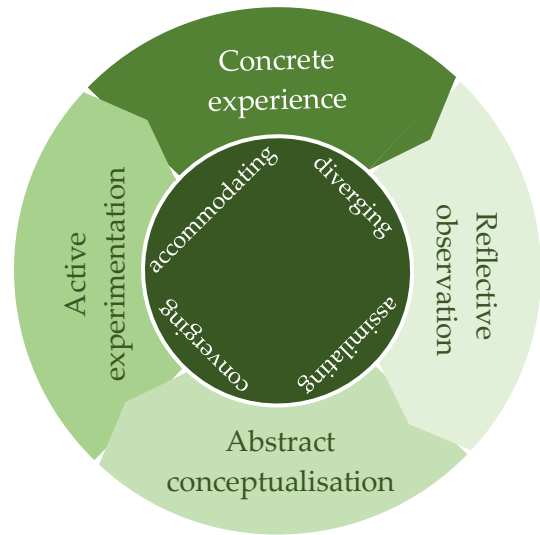
4. Women's knowledge and learning

Innovation is referred to as a social process of interactive inquiry that actors carry out to construct or reconstruct their practices. It requires interaction among actors and is therefore seen as a process of mutual learning. (Pyburn and Woodhill, 2014). The creation, sharing and application of knowledge is key to innovation. Literature distinguishes explicit and implicit (or tacit) knowledge. Explicit or codified knowledge is formal or written knowledge that can be found in documents, data bases, etc.. It is readily transferable and explainable through written and spoken words. However, most of our knowledge is tacit knowledge: informal, implicit or intuitive knowledge, rooted in context, experience, and practice. It is internally held knowledge that is often hard to capture in words or written language and therefore hard to communicate. (Pyburn and Woodhill, 2014). Knowledge is contextual, as it is created by interaction with the environment which becomes embedded in women and men's practices and epistemologies (Latour, 1987).

Innovation as a social learning process requires the exchange of explicit and tacit knowledge, joint reflection, as well as the application of knowledge. It is an interactive learning process aiming at the generation of knowledge. The processes require extensive linkages with different sources of knowledge such as informal networks of farmers, research, information systems, academia, among others, both tacit and codified (Rajalahti et al, 2008)). This can contribute to the generation of new and the regeneration of existing individual and social knowledge.

Kolb's experiential learning cycle refers to learning as the process whereby knowledge is created through the transformation of experience. Effective learning is seen as a continuous cycle of four stages: of (1) having a concrete experience followed by (2) reflection on that experience which leads to (3) the formation of abstract concepts (analysis) and generalizations (conclusions) which are then (4) used to test hypothesis in future situations, resulting in new experiences. (Figure 3). (McLeod, 2013).

Figure 3 Kolb's experiential learning cycle



Women's engagement in individual and social learning contributes to enhancing their individual agency, allowing them to build new relationships, initiate joint efforts, be part of coalitions and develop mutual support mechanisms to claim, and expand agency. Learning processes are vital for women (and men) to construct new knowledge, capacities and skills while altering ways of thinking (mental models), ways of seeing the world, belief systems and routines.

Women's and men's involvement in learning and knowledge generation, exchange, and use is different and is determined by intra-household dynamics, their interaction with other stakeholders as well as the prevailing social norms and values. Until today, extension and other interventions geared toward knowledge development and information dissemination often fail to take into account the specificities of men and women, their needs, intra-household dynamics as well as the more systemic opportunities and constraints they face.

Research questions

Overall question: What are the perceptions and realities related to the development, sharing and application of knowledge by women within forage production systems and value chains in Afghanistan?

1. What are the roles women play as knowledge holders and how are they and their knowledge appreciated (within household, by other women, by other men, in the innovation system)?

2. How do different interventions (incl. research and extension, information services, projects, public, private sector) address women's knowledge and needs related to forage production and value chains?
3. How are women engaged in the different phases of Kolb's learning cycle, and what are barriers and opportunities for their engagement?
4. What are the main (preferred) sources of information for women farmers for different types of knowledge? At what occasions do they (prefer to) access information? What approaches/methods/media are used and/or preferred (both formal and informal sources)? Why?
5. How and with whom do men/women share information related to forage production (what, when, where, why, how)?
6. How do women apply new knowledge related to the forage system? What are the constraints and opportunities?
7. What are the barriers to accessing, sharing and applying knowledge on forage system?

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