

# Gender-responsive recommendations for a project to integrate dairy goat and root crop production to increase food, nutrition and income security of smallholder farmers in Tanzania



RESEARCH  
PROGRAM ON  
Livestock and Fish

ILRI PROJECT REPORT



# Gender-responsive recommendations for a project to integrate dairy goat and root crop production to increase food, nutrition and income security of smallholder farmers in Tanzania

Cathy Rozel Farnworth<sup>1</sup>

1. Cathy Rozel Farnworth is an independent consultant. Contact: [cathyfarnworth@hotmail.com](mailto:cathyfarnworth@hotmail.com)

© 2014 International Livestock Research Institute (ILRI)



This publication is copyrighted by the International Livestock Research Institute (ILRI). It is licensed for use under the Creative Commons Attribution-Noncommercial-Share Alike 3.0 Unported Licence. To view this licence, visit <http://creativecommons.org/licenses/by-nc-sa/3.0/>. Unless otherwise noted, you are free to copy, duplicate or reproduce, and distribute, display, or transmit any part of this publication or portions thereof without permission, and to make translations, adaptations, or other derivative works under the following conditions:

- Ⓘ **ATTRIBUTION.** The work must be attributed, but not in any way that suggests endorsement by ILRI or the author(s).
- Ⓓ **NON-COMMERCIAL.** This work may not be used for commercial purposes.
- Ⓒ **SHARE ALIKE.** If this work is altered, transformed, or built upon, the resulting work must be distributed only under the same or similar licence to this one.

#### NOTICE:

For any reuse or distribution, the licence terms of this work must be made clear to others.

Any of the above conditions can be waived if permission is obtained from the copyright holder.

Nothing in this licence impairs or restricts the author's moral rights.

Fair dealing and other rights are in no way affected by the above.

The parts used must not misrepresent the meaning of the publication.

ILRI would appreciate being sent a copy of any materials in which text, photos etc. have been used.

Editing, design and layout—ILRI Editorial and Publishing Services, Addis Ababa, Ethiopia.

Cover photo—Cathy Farnworth

ISBN 92-9146-354-X

Citation: Farnworth, C.R. 2014. *Gender-responsive recommendations for a project to integrate dairy goat and root crop production to increase food, nutrition and income security of smallholder farmers in Tanzania*. ILRI Project Report. Nairobi, Kenya: International Livestock Research Institute (ILRI).

ilri.org

*Better lives through livestock*

ILRI is a member of the CGIAR Consortium

Box 30709, Nairobi 00100, Kenya  
Phone: + 254 20 422 3000  
Fax: +254 20 422 3001  
Email: [ILRI-Kenya@cgiar.org](mailto:ILRI-Kenya@cgiar.org)

Box 5689, Addis Ababa, Ethiopia  
Phone: +251 11 617 2000  
Fax: +251 11 617 2001  
Email: [ILRI-Ethiopia@cgiar.org](mailto:ILRI-Ethiopia@cgiar.org)

# Contents

Tables	vi
Figures	vii
Acknowledgements	1
Executive summary	2
Overall conceptual and planning frameworks	3
Overview of research framework	3
Summary of development activities	4
Discussion of research framework	5
Discussion of M&E framework and M&E assessment framework	7
Discussion of key targeted development outcomes	8
Discussion of targeting strategy	9
Gender conceptual and planning frameworks	11
Overview of gender conceptual framework	12
Summary of gender activities	13
Discussion of gender strategy	13
Fieldwork findings	15
Farmer expectations and concerns around the project	15
Value chain component	16
Value chain development	17
Gift giving and barter	19
Dairy goat component	19
Summary of dairy goat component	19
Discussion of dairy goat component	20

---

Root crop component	22
Household food security and nutrition component	23
Summary of food security and nutrition component	23
Discussion of food security and nutrition component	24
Recommendations	26
Create a development conceptual framework	26
Develop more empowering project–farmer relationships	27
Develop a gender empowerment framework	28
Strengthen farmer livelihood planning	29
Value chain component	31
Dairy goat component	31
Root crop component	32
Household food security and nutrition component	32
Annexes	33
Annex 1. Fieldwork timetable	33
Annex 2. People met	34

# Tables

Table 1. CGP Tanzania project objectives and development objectives	6
Table 2. Farmer expectations of the project	15
Table 3. Sample cost of living indicators, Ihanda	16
Table 4. Comparison between dairy and local goat prices	17
Table 5. Incomes in project villages	17
Table 6. Kid weight gain in Chumvi chumvi	20
Table 7. Dairy goat care;Tasks by gender	21
Table 8. Responsibilities for goat management by gender	21

# Figures

Figure 1. Research framework	3
Figure 2. Integrating gender in the CGP Tanzania	12
Figure 3. Indicative impact pathway	27
Figure 4. Three empowerment dimensions	29



# Acknowledgements

I would like to acknowledge the very kind and ever ready support of Deo Gratius Shayo, who never tired of answering my many questions. It seemed to me that he works tirelessly in the villages, not only performing his technical duties but also engaging the participants with ready banter and friendly words. Leah George was my patient, thoughtful and careful translator. She made many useful suggestions to improve the fieldwork and thus ensure a more relevant report. Joyce Lyima-Macho, gender focal point, guided me from the outset of this consultancy. She helped me understand the overall shape and ambitions of the project, and provided many useful analyses and ideas. Pamela Pali, the M&E coordinator, was extremely helpful at all times in providing me with documentation and answering queries. I would like to thank Pamela Meena and Jerimia Makindara for thoughtfully sharing their work in progress.

Above all, let me thank the many project participants who took time out of their busy days to explain the project from their point of view. They were full of humour, kindness and patience.

Steve, the project driver, was a superb companion on the long journeys, and always timely and thoughtful.

Finally, I would like to acknowledge IDRC as the funder and University of Alberta and Sokoine University of Agriculture as partners of this project.

Thank you to you all.

Cathy Rozel Farnworth

# Executive summary

The purpose of the Crop and Goat Project (CGP) in Tanzania is to increase food security among smallholder farmers in Tanzania with an emphasis on marginalized households. It will achieve this by introducing improved dairy goats and improved cassava and sweetpotato roots for human consumption, with the leaves and vines being used as supplementary food rations for goats.<sup>2</sup> Local goats are already kept by many farmers, and root crops are widely grown. The novelty of this project is to purposively integrate these activities into a mutually reinforcing system. A key cultural innovation is to promote the consumption of goats' milk, particularly to children and mothers. It is expected that goat and root crop products will also be marketed, thus enhancing income.

The study finds that CGP Tanzania Project benefits from superb baseline and other analytic work. Senior staff at the Sokoine University of Agriculture and the University of Alberta, provide a vast pool of wide-ranging expertise to the project. Students at both universities are preparing rich studies likely to be critical to the success of the project. Work in the field has commenced and is being performed in a conscientious and timely manner. Gender equity is integrated into the way of working in the project, as well as being a key objective. Reports on work in progress clearly detail successes and openly discuss failures and suggest ways forward.

With regard to the technical components, the dairy goat component is particularly successful in terms of ensuring the animals are well cared for. The root crop component is suffering important difficulties largely due to insufficient rain in Kongwa. The value chain component, and the food security and nutrition component, are still at the analytic stage. The value chain component may be difficult to launch successfully yet successful value chain development, particularly in dairy goat products, is central to farmer expectations of their lead benefit from the project.

The report argues that important parts of the project should be tightened up. A particular area of concern is ensuring effective research into development pathways. The project is clearly research led with insufficient modalities for translating research into use. Work on gender could be strengthened by developing an 'empowerment framework'. The food security and nutrition component would benefit from a similar exercise. To ensure the project is robust, and to help create an effective exit strategy, partnerships should be sought with private sector value chain actors, and with health service providers.

The final part of this report details these and other recommendations across the CGP Tanzania Project portfolio.

---

2. Lekule and Parkins (no date) Details of Research Project.

# Overall conceptual and planning frameworks

Part 1 examines the CGP Tanzania Project's conceptual and planning frameworks. Part 2 focuses on the project's conceptualization of, and work on mainstreaming, gender. The aim of Part 1 and 2 is to contextualize the study visit findings which are discussed in Part 3. Unpacking the explicit and implicit assumptions and broader thinking, underpinning the CGP Tanzania Project is necessary if the emerging field-level outcomes are to be properly analysed and interpreted.

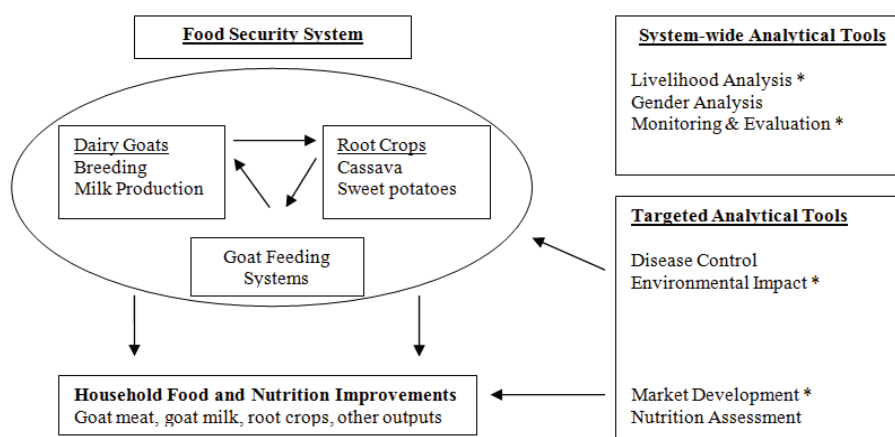
Part 1 begins with an overview of the research framework. It continues by summarizing development activities to date. It then discusses the research framework and associated documents. These include the Monitoring and Evaluation (M&E) Framework and the M&E Assessment Framework, and the Key Targeted Development Outcomes. Part 1 concludes by assessing the beneficiary targeting strategy.

## Overview of research framework

The CGP Tanzania Project is constructed around a series of interlocking components, all of which need to function if the desired public goods are to be delivered. The components are dairy goats, cassava and sweetpotatoes. The root crops are dual purpose, aiming to feed both humans (roots) and goats (leaves and vines). The public goods are (i) improved food security and nutrition at the household level delivered through the consumption of goat meat and milk, cassava and sweetpotato, and (ii) functioning value chains in the same products. Project documentation and interviews with staff make it clear that a key emergent property of the system is intended to be improved gender equity. A second emergent property is sustainable environmental management in marginal areas.

Figure 1 depicts the research framework. There is no equivalent figure articulating a development framework.

Figure 1. Research framework.



\* Denotes areas of Canadian expertise

To underpin the Research Framework with real-time information, the CGP Tanzania Project is devoting considerable time and effort to analysing the current situation in project and control villages. Figure 1 provides an overview of the System-wide and Targeted Analytic Tools planned. To date, application of the various analytical tools has resulted in a comprehensive baseline survey, a gender analysis and gender strategy,<sup>3</sup> an environmental impact assessment, and a number of documents on on-going efforts with respect to dairy goat and root crop introduction and management.<sup>4</sup> Market development studies have been performed by masters' students at the Sokoine University of Agriculture, as have household nutrition assessments. These data are still being analysed. A literature review of past experiences in improved goat breeding and mixed crop farming in East Africa<sup>5</sup> has been completed, and an analysis of gift-giving using cassava as a proxy for general gifting behaviour is being undertaken.<sup>6</sup> A Monitoring and Evaluation framework, discussed in detail below, has been developed. Overall, these activities are intended to support a further public good: to strengthen African-based research institutions to implement advanced research and development strategies.

The project is thus equipped with excellent information upon which to act. However, the specific pathways by which information from these studies will be fed into the development activities is unclear from the documentation, though it is assumed by CGP Tanzania Project team members that information will be utilized appropriately. A clear Research into Use strategy is missing.

## Summary of development activities

Development activities have begun in all technical areas: dairy goats, cassava and sweetpotato introduction and production. Work on improving gender equity and on value chain mapping is on-going.

Engagement with CGP Tanzania Project beneficiaries has been staged carefully. Dairy goat does and bucks have been introduced in all project sites. Recipient farmers have been trained in improved goat husbandry (including fodder, breeding and disease management) and how to construct goat houses. Improved cassava and sweetpotatoes have also been introduced. To date, the beneficiaries are not permitted to engage in market activities with respect to these products.

The entire CGP Tanzania Project is cognizant of gender, with gender variables being incorporated into the analyses mentioned. All project staff have been trained in gender analysis. The participation of women in male-headed households, and women heads of households, is expected in project activities. Half-day gender sensitization workshops, and follow-up discussions, have been conducted with beneficiaries in each project location. Gender equity is a means (expressed through integrating women at all times) as well as an end for this project.

The project team comprises of senior Sokoine University of Agriculture staff and students, and staff and students with complementary profiles from the University of Alberta. Key areas of Canadian expertise are livelihood analysis, monitoring and evaluation, environmental impact, and market development. Tanzanian expertise focuses on gender analysis, disease control, and nutrition assessment. This said, some skills areas are shared. 'Hands-on' technical staff include a project coordinator, and livestock and agronomic specialists. There is thus a large pool of expertise devoted to this project. However, there are no partnerships with private sector partners. This may impact upon long-term sustainability and effectiveness, particularly in the areas of improving food security and nutrition, and on value chain development.

3. Njuki, J. and Saghir, P. 2012. Gender strategy: Integrated crop and goats project, Tanzania. ILRI.

Saghir, P., Njuki, J., Waitanji, E. Kariuki, J. and Sikira, A. 2012. 'Integrating improved goat breeds with new varieties of sweetpotato and cassava in the agropastoral systems of Tanzania: a gendered analysis'. Discussion Paper No. 21. ILRI London.

4. Mtunda, K. and Msemu, J. (no date). Integrated Dairy Goat and Root Crop Production in Tanzania: root crop component.

No author (2012). Roots and Tubers to the Fore: cassava and sweetpotato may improve dairy goat production in Tanzania's drylands, but will women benefit?

Kusiluka 2012. Integrated Dairy Goat and Root Crop Production in Tanzania: animal health and disease management.

Chenyambuga, S. 2012. Integrated Dairy Goat and Root Crop Production in Tanzania: report on goat breeding.

5. Amati, C. and Parkins, J.R. 2011. Improved goat breeding and mixed crop farming in East Africa. A literature review. University of Alberta, CIDA, ILRI.

6. Zigab, G., Luckert, M., Marcoul, P. and Mohapatra, S. 2012. Economic Analysis: informal markets and gift giving as livelihood strategies.

## Discussion of research framework

A few observations can be made about the Research Framework. First, the framework is strongly dependent on all components functioning as planned. It is highly vulnerable if one component fails or is weak. Second, whilst the framework is called a 'Research Framework' it actually functions as a conceptual framework for the whole CGP Tanzania Project and is thus dual purpose. This is important since it is not sufficient to assume that feeding excellent research into the system is enough to secure excellent development outcomes.

For this to occur, overall development goals need to be clearly articulated, a rigorous impact pathway needs to be developed, and the assumptions underlying the impact pathway need to be made explicit. However, although the project has clear development goals, it has not yet developed an impact pathway, nor has it made fundamental assumptions clear. Another way of thinking about this would be to invert the language and call assumptions 'risks'. In so doing, it becomes clear that Kongwa in particular faces high levels of risk due to its erratic climate and strong cultural norms. In Mvomero, different challenges arise, one of them being the long distances between homesteads and household farms/sites of fodder. The does contain a brief risk assessment which acknowledges the threat drought poses to the root crop component, but suggests that the root crops selected need little water for germination. Since farmers are provided with cuttings, the key risk is the lack of water during the growing season and is already compromising the root crop component. Other risks, discussed below, were not identified yet may be serious.


With regard to the development goals themselves, and associated strategy development, it would be useful to set out conceptual frameworks for food security and nutrition, and for empowerment. These are lacking though tools for measuring different aspects of food security and nutrition are well articulated. The project moves straight from goal articulation to strategy. Agreed conceptual frameworks would help everyone agree, and understand, the overall outcomes and impacts the project wants to achieve, and it would help to ensure that strategies are properly 'joined up'. Currently, the risk is high that critical interventions may be missed altogether.

Considering the Research Framework, there are two sets of objectives, Project Objectives and Development Objectives. These are placed together in Table I to enable comparison. The development objectives have been re-ordered by the author of this study in the Table to try and show how the project objectives underpin the development objectives. The words 'resulting in' have been placed between the project objectives column and the development objectives to demonstrate the degree to which they support each other, and to highlight gaps. The project goals have been added to show how the objectives feed into, and support, the ultimate purpose of this work. A key point to make here is that the current documentation has not yet attempted to clearly link project and development objectives in this way, yet it is vital to do so.

Milestones have also been articulated. These include 'Targeted Development Outcomes' by which are meant measurable achievements at the end of the CGP Tanzania Project. These are discussed separately below.

Table I shows that the project objectives and development objectives broadly overlap, though there are some gaps. Immediate obvious gaps include the absence of a clear project (research) objective to help underpin improved participation of local associations in goat breeding and marketing, and, related to this, research into how to ensure improved collective and participatory enforcement of effective land utilization methods. The M&E Framework document, discussed in more detail below, does not provide a clear indication of how local decision-making structures will be either be created, or existing ones supported. Although the background gender report (ILRI 2012) recommends working with women's groups, this is not being worked on. New goat keeper associations have already been set up and elections for key positions held, but in all project villages these are moribund since no marketing has yet taken place. This of course can change rapidly. Furthermore, no milestones are associated with the creation of effective producer organizations, although conventional development wisdom associates strong producer organizations with improved negotiation power in the marketplace.

Table I. CGP Tanzania project objectives and development objectives

Project objectives		Development objectives
To improve the milk production potential of indigenous goats through crossbreeding, improved management and control of major diseases	Resulting in	Increased local availability of crossbred goats and goat milk production (output per goat) due to better breeds, better health, and reduced disease  Improved participation of local associations in goat breeding and milking, and increased access to, and use of, methods to reduce diseases in goats
To test and evaluate improved sweetpotato and cassava varieties that have the dual purpose of improving food security and nutrition at household level and the development of locally available and cost effective rations for dairy goats	Resulting in	Improved varieties, productivity, and processing of cassava and sweetpotato crops
To determine the livelihood strategies, production potential, and marketing possibilities of local goats and crops in the study areas	Resulting in	Improved marketing systems for goats and root crops for men and women, and ability of women to independently participate in various stages of the value chains  Collective and participatory enforcement of more effective land utilization methods by community members
To analyse the impacts (productivity, environmental, gender and empowerment, food security and nutrition) of integrating improved goat breeds with sweetpotatoes and cassava into an agropastoral farming system	Resulting in	Increased household food and nutritional security through the consumption of locally produced goat milk, sweetpotato, and cassava
		
Goals		Increased household food and nutritional security from the interaction between root crops and dairy goats at the farm level Increased incomes from sales of goats, goat milk, sweetpotato and cassava products

Despite the centrality of gender to this project, gender is almost invisible in the objectives. It appears only in terms of an expected impact analysis on the project objective side, and in terms of female participation in value chains under objectives. Importantly though, the outcomes per objective show strong gender disaggregation of expected outcomes and outputs. In terms of addressing gender, staff have received training in gender, half-day gender training workshops have been held in each project village, some follow up discussions have been held, and women are directly included in all activities. This may not be sufficient to achieve gender equity because the focus is primarily upon transforming people's normative frameworks rather than offering an array of activities focusing on achieving change in various domains.

## Discussion of M&E framework and M&E assessment framework

The general lack of clarity regarding development pathways can be directly related to the overall M&E Framework. This framework has been presented in a table form consisting of seven columns under the following headings: Level of Result (subheadings Goals, Objective, Outcomes, Outputs), the Processes/Key Results, followed by Indicators. Columns detailing Level of Data Collection, Tool to Use, When, and Type of Deliverable follow. The M&E Assessment Framework utilizes the first three headings up to Indicators and continues by requesting information on: Baseline, Targets, Extent of Achievements, Follow up/Adjustments. Neither Framework lists assumptions (risks).

Bundling processes and key results in one column is not helpful since these are conceptually distinct. A process is the journey to the desired end state (result i.e. the outcome, and indeed, from thence to the expected impact) and should therefore not be confused with the end state. The effect of blending these concepts together means that it is quite hard to: (i) discern the actual entry point and strategy for achieving specified outcomes, and to (ii) discuss the hypotheses underlying each intervention.

The lack of a comprehensive risk analysis is also a difficulty, because the CGP Tanzania Project has deliberately sought out high risk areas for the intervention. These areas are high risk in several ways.

1. Environment. Kongwa in particular is a highly degraded, environmentally marginal area with erratic rainfall. This fact poses critical risks to zero grazed dairy goat production. Challenges identified by respondents to this study, and also in Kilemo et al. (2012) include:
  - Concern around sustainable supply of fodder.
  - Water shortage.
  - Land shortages.
  - Dysfunctional environmental committees.
  - Pastoralist/farmer tensions.

How are environmental and institutional issues being addressed by the project? This is not yet clear.

2. Goat Markets. In both areas—and particularly in Kongwa, formal markets are extremely weak to nonexistent. The Kongwa District Profile notes that there are only three livestock markets with less than 1000 animals (cattle, pigs, goats) sold each month. No livestock marketing cooperatives exist. Goats are sold or bartered locally, but dairy goats cost a lot of time and money to produce. How will these opportunity costs be recovered?
3. Goat Milk Markets. There is no existing market for dairy goat milk and so markets have to be created. A key project assumption is that when people become aware that goat milk is nutritious, informal markets will develop. Is this realistic? If informal cash-based markets for goat milk develop, will household nutrition be compromised?
4. Value Chains. It is well documented that value chain projects are often captured by men and elites. This project relies primarily on gender sensitization as a strategy to prevent male takeover. Is this realistic? Could other methods to strengthen female participation in value chains be introduced?
5. Cassava and Sweetpotato. In Kongwa, it is particularly difficult to grow sweetpotato due to low rainfall. Currently, this seems to be fatally compromising sweetpotato production. In Mvomero, project beneficiaries live a long way from their farms. The study team did not examine crop production in Mvomero but it did note the high interest of project beneficiaries in alternative income generating projects.
6. Gender. Gender relations in both areas particularly in Kongwa are characterized by strong male decision-making power, and high levels of formalized and non-formalized polygamy.

Together, these issues pose serious challenges to the CGP Tanzania Project. They are discussed in more detail below under topic headings. It is obvious that at the outset of the project many of these risks were not known, but it would be useful to take time at this stage of the project to pull out these and other emerging risks, and to develop mitigating strategies accordingly.

## Discussion of key targeted development outcomes

The 'key targeted development outcomes', after 42 months of engagement, are listed under the CGP Tanzania Project Milestones as follows:

1. Feeding and housing program is established and number of goats, and farmers with goats, increased by 20%.
2. At least 30% of farmers, half of who will be women, are linked to new/existing profitable markets for goat milk, cassava and sweetpotatoes.
3. 10% increase over baseline in household incomes, food consumption and nutrition in households.

There are some important difficulties with these development outcomes. The most obvious is that words like outcome and goal are being used very loosely across the documentation. The M&E Framework has outcomes and outputs associated with each objective, and the CGP Tanzania Project has two overall goals as shown in Table I. However, the list above does not refer to the outcomes listed in the M&E Framework. In fact, the 'key targeted development outcomes' read like a combination of outputs and outcomes. When examined more closely, it is evident that each development outcome bundles very different activities and commodities with a single percentage based figure. Each outcome is discussed separately below.

*Feeding and housing program is established and number of goats, and farmers with goats, increased by 20%.*

The logic behind the achievement of 20% increase in both numbers of goat farmers and goats is not clear. First, the baseline study shows that no farmers have dairy goats hence a 20% increase is not possible. Second, assuming for illustrative purposes a starting point of 50 farmers with dairy goats after two rounds of goat deliveries in 2012, this percentage figure implies that during the course of the project a further 10 farmers will be successfully enrolled and then receive one goat each, presumably under the 'pass on the gift' scheme. However, to what extent does a system with each participating household holding one goat each represent success, particularly given the objective that some male goats are consumed for meat?

*At least 30% of farmers, half of who will be women, are linked to new/existing profitable markets for goat milk, cassava and sweetpotatoes.*

It is certain that the market opportunities for each commodity are very different, with different transaction costs, different rates of profitability, and different degrees of male/female engagement in each market. It should also be noted that there is currently no formal or informal market at all for dairy goat milk and that this needs to be created. The processes involved in creating new markets are very different to those involved in tapping into the existing markets for cassava and sweetpotato. Also, this projection does not take into account the fact that even if women sell products they may have to hand over the majority of the monies earned to their male partners (as noted in the baseline study). Finally, the baseline study indicates that cassava and sweetpotatoes are often given rather than sold, which in itself implies that it will be difficult to develop a locally profitable market. It may also be counterproductive to challenge gift-giving when this is managed by women since this process could be critical to their ability to develop and maintain social capital and status. It is vital to identify trade-offs.

*10% increase over baseline in household incomes, food consumption and nutrition in households.*

Here, very different attributes are being compared. First, a 10% increase in income is very different to a 10% increase in food consumption. Research demonstrates that improvements in the level of household income often correlate



weakly to increased spending on food. The key issue for development practitioners is not that income has increased, but rather *the use to which these increased monies are put*. The critical issue regarding food consumption is to know the desirable level of food consumption, which could be captured in terms of calorie intake following WHO guidelines. In both project sites, the transitory aspects of food security/insecurity need to be addressed in terms of strategy development. This is recognized in the indicators associated with the goals, but it is not clear if—for instance—the farmers will be trained in storage techniques and in broader food planning and management strategies.

Gender and age are variables which do not only determine personal calorie requirements; these variables can often affect entitlements to food as well. The framing of development outcomes needs to be cognizant of gendered/age-related food distribution patterns at household level and to develop compensatory strategies accordingly. Although this is recognized in the project documentation, the strategies by which existing inequitable patterns of food distribution will be addressed are not clear. The assumption would seem to be that talking about the need for gender equity will result directly in gender and age equitable food distribution.

Similarly, it is not possible to speak of a 10% increase in nutrition. Improvements in nutrition will use quite different measures than for food security to monitor progress towards a balanced and healthy diet. Furthermore, it is possible that foods rich in protein, for example, are directed to male household heads.<sup>7</sup> Indicators associated with the CGP Tanzania Project goals seek to capture changes in individual dietary diversity scores by gender and age. The starting point—a gendered and age-related nutrition survey upon which meaningful strategies for change, and indicators, can be built—is being conducted by a master's student. The issue here is to develop a meaningful gender and age-responsive development outcome associated with nutrition.

Finally, it is possible that the development of a strong market in goat milk (No. 2) could well clash with outcome No. 3 which focuses on improved nutrition deriving partly from goat milk consumption. Many studies show that nutritious foods, including milk and orange-fleshed sweetpotato, and others may be sold rather than be used by household members. The project notes this risk but has not yet articulated a clear strategy for managing it.

In sum, the 'targeted development outcomes' need a considerable rethink and they should be more closely aligned with the goals and indicators set out elsewhere. This can be achieved as part of an overhaul of the development objectives behind this project.

## Discussion of targeting strategy

Project farmers were selected randomly from a shortlist from all households in the baseline survey (which were in turn selected randomly) to receive dairy goats. About half of the households short-listed were provided with dairy goats and root crops.

The random selection requirement demonstrates the tension between research goals and development goals. A lead justification for the project was a focus on the most marginalized households<sup>8</sup> (including female-headed households) but random selection does not guarantee this. The baseline study insists that the next round of goat allocations should continue with random selection whilst taking project objectives into account.

The random selection requirement is compromising the success of the project. It is now clear that farmers who do not want to keep dairy goats have been selected. For instance, ten farmers trained in goat husbandry in Wami-Luhindo, Mvomero District, dropped out of the project. It has been difficult to replace these farmers due to the continuing demand for random farmer selection, meaning that fewer households than planned have been engaged.<sup>9</sup> The levels of commitment of farmers who have actually accepted dairy goats is not known, but commitment is likely to be a key success factor in the coming months.

7. See FAO (2012); Ramachandran (2006).

8. Lekule and Parkins (no date) Details of Research Project.

9. Chenyambuga (2012).

It is, furthermore, vital to query the ethics of demanding that farmers participate in training and goat distribution programs when they have no interest. In the personal opinion of the author, it seems ethically misplaced and also potentially harmful if those farmers wish to focus on other livelihood strategies or lack the labour and financial means to participate effectively.

Whilst random selection of respondents is good research practice, it serves no purpose in a development project. It would be preferable to engage in purposive selection using pro-poor and gender-responsive criteria developed largely by the communities themselves. Promoting self-targeting, by creating a project of interest to poor women and men—but conversely of little interest to wealthier farmers—is important.

## Gender conceptual and planning frameworks

Examination of the project documentation and discussions with field level and academic staff show that gender equity is part and parcel of the practice of this project, as well as an intended end goal. This is a very powerful approach. Broadly, work focuses on shifting current gender norms in the project sites. Studies prior to the intervention show that.<sup>10</sup>

1. Women have only usufruct rights to land. Inheritance is patrilineal. This affects women's ability to control the produce of the land they farm.
2. The conditions under which women can own goats include: unmarried women, female head of household, wealthy enough to purchase goats, bride wealth. However, in these cases women typically need permission from male kin to sell.
3. Women carry out major tasks with regard to goat care (cleaning house, tending sick goats, fetching water) whilst men and children herd goats. However, women are not entitled to take key decisions with regard to their sale or use of monies from their sale. Box 1 captures what some of the people interviewed had to say about women and decision-making regarding livestock.

### Box 1

- Man, Konke. *Even if a woman is given a chicken or a goat by her parents as bride wealth, she cannot own it. It belongs to her husband. The decision on whether to sell inherited livestock is made by her husband. The wife and everything she owns belong to her husband dead or alive.*
- Man, Masinyeti. *Is the president of this country a woman or does the sun rise from west to the east? Women should wait until we have a female president in this country before they can own or make any decision on goats.*
- Woman, Masinyeti. *How can a woman own livestock while the land she uses for grazing and cultivating belongs to her husband or other male relatives?*

Discussions during the study visit elicited the following observations. First, there are project-relevant differences in gender relations in the study sites, with Kongwa being more conservative. By way of contrast, in Mvomero there is more flexibility in gender roles and responsibilities because this area is ethnically diverse with intermarriage and it is highly patronized by development partners who have already raised awareness on gender issues. This said, equality has not been reached. One Konke woman noted to the study team: *'A couple may discuss if their house can be used as collateral, but the house belongs to the man. Everything is in the man's name.'*

Kongwa has seen fewer development interventions and is more (though not totally) ethnically homogeneous. Patriarchal relations seem stronger. For the CGP Tanzania Project, this means that any changes in gender relations in Kongwa (Ihanda and Masinyeti) can be largely attributed to the project intervention but attribution will be more difficult in Mvomero (Konke and Wami-Luhindo).<sup>11</sup>

10. Njuki, J. 2012. Integrating gender into CGP—Tanzania Project and Activities. Powerpoint Presentation.

11. These two paragraphs, except the quote, are based on a discussion with Joyce Lyimo-Macha. Key Informant Discussion. Sokoine University. 28.02.2013.

## Overview of gender conceptual framework

The project has not articulated an ‘empowerment framework’. This means that understandings of gender equity and equality are tacit and not necessary shared. It also means that certain kinds of intervention may be missed altogether because the need for them has not been conceptualized. This could weaken overall gender outcomes and impacts.

Joyce Lyimo-Macha,<sup>12</sup> gender focal point, presents the project’s vision for gender in her own words thus:

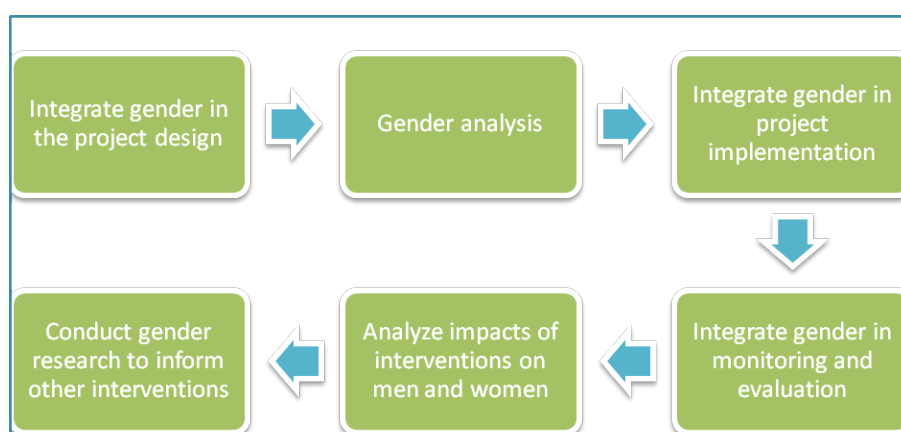
*‘Our ultimate goal is to have equality between the two sexes, in their participation in project activities, to get them to share roles, but we are not working to change their traditional roles. If there is a task they cannot share like cleaning the goat houses, which is traditionally women’s work, as is feeding and watering the animals, we want men to think that they can assist. Men may collect water for the animals, for example, and women may continue to collect water for domestic use.*

*‘We are working to sensitize women and empower them to take part in decision-making over goats and root crops regarding processing and sale, regarding the proportion to be allocated for sale and for self-consumption, that they should know market prices and that they should take part in expenditure decisions. We know that in some of the ethnic groups we work with that women may contribute but may not be final decision-maker. Men may take the final decision. Our aim is therefore to ensure women and men feel free to discuss together, even if the final decision-maker is the man. It is about valuing the women’s contribution.’*

These words make it clear that the project is focusing on nudging women and men towards gender-equitable behaviour rather than attempting whole-scale transformation of gender relations. In this, it is aligned fairly closely with the recommendations set out in a detailed and wide-ranging study called, ‘Integrating improved goat breeds with new varieties of sweetpotato and cassava in the agropastoral systems of Tanzania: a gendered analysis’<sup>13</sup> (hereafter referred to as the ILRI Study). The ILRI Study highlights the importance of engaging women and other disadvantaged categories including youth in all project activities, and in fostering dialogues at community level around gender norms.

A comprehensive gender strategy was prepared at the outset of the project to help guide project formulation and implementation.<sup>14</sup> The project thus benefits from excellent fieldwork-based gender studies and analyses. This helps to ensure that the project’s strategies are tailored and situation-specific. The gender mainstreaming approach for the project is summarized in Figure 2.

Figure 2. Integrating gender in the CGP Tanzania.



Source: Adapted from Jemimah Njuki (2012).<sup>15</sup>

12. Key informant discussion. Sokoine University. 28.02.2013.

13. Saghir, P., Njuki, J., Waithanji, E. Kariuki, J. and Sikira, A. 2012. ‘Integrating improved goat breeds with new varieties of sweetpotato and cassava in the agropastoral systems of Tanzania: a gendered analysis’. Discussion Paper No. 21. ILRI London.

14. Njuki, J. and Saghir, P. 2012. Gender Strategy: Integrated Crop and Goats Project, Tanzania. ILRI.

15. Njuki, J. 2012. Integrating gender into CGP—Tanzania Project and Activities. Powerpoint Presentation.

## Summary of gender activities

The current status is that gender has been addressed in project design, in baseline and other studies, and it is being integrated into project implementation. The baseline study worked to disaggregate key data variables by sex and to analyse data by type of household, and by men and women, boys and girls within households. This is intended to assist project implementation and contribute to M&E. A gender inventory to identify female-headed and male-headed households has been conducted but it is not yet available. This may mean that female-headed households are not being properly targeted. A web-based monitoring system incorporating baseline data on existing gender gaps in nutrition/income/assets gaps is being developed but is not yet available. Furthermore:

- All project staff have been trained in gender analysis and on the importance of including women in all project activities.
- Gender sensitization workshops (approx. half day) have been held in each project village with project beneficiaries.
- Community training activities are being conducted to continue awareness-raising of gender issues emerging during the project as it progresses. The aim is to understand, challenge, and address the distribution of resources and power relationships between women, men and youths, and others.
- All training is expected to ensure that training is delivered based on gendered needs assessments. It is not clear if gendered needs assessments have been carried out.

Key recommendations set out in the International Livestock Research Institute (ILRI) study which have not yet been addressed include:

- Provision of assets to women. This could commence with ensuring joint ownership of assets. However, currently the project registers goats in the name of the household head only.
- Specific strategies to involve very poor households, for example by organizing them into groups to obtain communal land for individually or communally worked plots.
- Working with existing women's and special interest groups as an entry point.
- Specific strategies to involve youth.

With respect to other recommendations, the degree to which community members are actually working on the development of equitable criteria for the ownership, management, and decision-making over project benefits is not clear. Similarly, the degree to which gendered indicators have actually been developed with community members to help track improvements in women's involvement in project activities and benefits is unclear. It was not possible to obtain any such indicators or criteria during the course of this study.

## Discussion of gender strategy

It is difficult to judge the efficacy of the work on gender at this point in the project. First, delays to the introduction of the dairy goats and root crops means that no benefits have been secured as yet. This also means, of course, that potential disputes over the allocation of such benefits within the households have not yet arisen. The gender sensitization work conducted to date, which has focused on ensuring more equitable decision-making, has therefore not yet been challenged.

Second, women and men have made large investments in dairy goat housing and in their daily care and their expectations are high. This is discussed in more detail in Part 3. It will be critical to see if women and men, and boys and girls, do indeed note direct benefits from their hard work.

Third, behavioural change takes time and is hard to measure convincingly. A central aspect of the work with the project farmers has been the aforementioned gender sensitization workshops which discuss gender roles and responsibilities with the participants and more broadly emphasize the desirability of gender-equitable behaviours. These workshops, and subsequent discussions, essentially propose new normative frameworks for gender relations.

It is in this context that the fieldwork for this study was conducted. The author of this report found that the participants provided an impression of almost complete gender equity around goat management, and that women expect to play a strong role in determining how profits were to be used. At the same time, these discussions were unusually hard to conduct, with plenty of prompting needed. What is actually happening? The suspicion is that the respondents have learnt 'development speak' very effectively and were saying what they thought the study team wanted to hear. To verify or disprove this suspicion requires much more time than was available to the study team. A variety of methods, including participant observation (staying in the village), daily time schedules, seasonal calendars etc. is needed.

Despite these concerns, respondents did indicate nuanced changes which appear to be genuine. Women in a small group discussion in Masinyeti explained:

*Both the mother and father participate in decision-making, but sometimes the father has more power in that process, leaving the mother agreeing to something she does not like only because there is no way out. However, some men are polite to the women in that they sit together and discuss what is important for their families. It is those women who have no permanent or formal marriage who decide on their own on what to sell, how much to sell, and how to spend the money they earn. Their partners have no say on their income they earn.*

Women in Konke said:

*I am the one who decides because I work with the goat. My husband cannot reject my decision. Well, it is not only that I work with the goat. We discuss and reach a consensus. If I sell something when he is away then I will tell him that I sold milk or cassava and for how much. If he is at home then we will discuss whether to sell. We normally decide together.*

The conclusion to this discussion is that more work needs to be done in verifying whether change has actually occurred. Work also needs to be done to 'fix' change more effectively; the concern is that talking about the desirability of change will not necessarily lead to that change, particularly over the longer-term. It also seems necessary to ensure better inclusion of vulnerable categories including separate work with women and men youth. Distinguishing carefully between *de facto* and *de jure* female-headed houses in the context of polygamy is important. Above all, it would be useful to develop a comprehensive 'empowerment framework' to guide thinking, strategy development and activity formulation. An empowerment framework which develops strategies and activities across a variety of domains is required.

## Fieldwork findings

Part 3 focuses on the study team's fieldwork findings. Discussion opens with a presentation of farmer expectations *vis-à-vis* the project. This is followed by an assessment of work on value chain analysis to date since effective value chain functioning is critical to the realization of farmer expectations. Thereafter, work on the goat, root crop, and nutrition components is examined. The overall aim is to add detail to the more abstract analyses carried out in Parts 1 and 2, and to establish a firm foundation for the Recommendations in Part 4.

### Farmer expectations and concerns around the project

Farmer expectations of the project are very high primarily due to their assumptions around the sale prices of dairy goat milk, meat and live animals. Farmers do highlight the importance of milk for home consumption, but it is clear that the need to obtain monies for the realization of immediate needs as well as achieving life-goals dominates. See Table 2.

Table 2. Farmer expectations of the project

Konke: women	<p>I was expecting that one day I could sell the goats and build a house and send the children to school, and also invest in the farm.</p> <p>I was expecting to get milk to sell, and also to supply my family.</p> <p>I was expecting to sell the goat, to have the milk for home consumption, and to have enough money for health needs, for example if I get hospitalized.</p>
Masinyeti: women	<p>I was expecting to improve household nutrition. I wanted the sweetpotatoes to help reduce hunger. Cassava is a drought-resistant crop. As a community worker I want all pregnant women to have milk, as well as young children. Also, you can fertilize the land from goat manure.</p> <p>I want milk for the children and also to sell the milk to buy other things for household needs. We're not yet selling milk. We got some milk from someone who had a dairy goat but now she is expecting again.</p> <p>The milk provides nutrients to the children. I want to sell milk for school fees and put the manure on the fields.</p> <p>I'll be able to move out of poverty and build a good house.</p> <p>The goat will help me get the nutrients we need. If we can sell the milk we can see the benefits. We will pay school fees and build a house.</p>
Masinyeti: men	<p>For me there were three benefits. First, just keeping the goat to help increase my income. Second, waste to fertilize the fields. And third, selling the goat for meat. The milk is important. I heard from others that goat's milk can be used to treat ulcers.</p> <p>I've decided to keep goats to help myself and my family. I want the milk for the children and also selling. If I have more goats I can help the family more.</p> <p>Milk and food for the family. Waste to fertilize the fields. If I get many goats I can sell them to help the family.</p> <p>Milk, fertilizer, selling them to pay school fees.</p> <p>Meat, milk, selling to help the family, for example to pay medical costs.</p>
lhanda: women	<p>I wanted to get out of poverty by educating my children. This is very expensive.</p> <p>I was expecting to get money for the house, to cultivate the farm and for self-consumption</p> <p>I am single. I want my children to have enough food, to have school uniforms.</p>
lhanda: men	<p>The income generated from selling the goat milk will be spent to meet household needs including buying chicken, meat, salt, food, cloth, medical services, travelling, bicycle; expansion of goat house and paying for school.</p>

Women and men express similar visions, though women mention educating their children more frequently. Some women articulate very large visions, such as building a new house. It is useful to compare the respondents' visions against the actual costs involved in attaining their visions. Table 3 contains data provided by women and men respondents in Ihanda. All figures are in Tanzanian shillings (TZS).<sup>16</sup>

Table 3. Sample cost of living indicators, Ihanda

Primary school/ per child	No fees. Indirect costs include uniform 10,000/-; shoes 10,000/-; exercise books sometimes twice a year
Secondary school/per child	Fees 20,000/-; skirt 10,000/-; shirt 15,000/-; shoes -; guard 5,000/-; and other costs When children board: total cost approx. 100,000/-
Family house	Three rooms with mud walls, thatched with iron sheet and stones on the top of the roof is about 300,000/-

Every respondent stated that none of their expectations had been met since few goats have produced kids, and milk is not yet—apart from in a very few cases—being produced. They also recognize that a cornerstone of the project is to 'pass on the gift' by handing on two female kids, and that this will delay benefits still further. This said, levels of concern are high among all respondents that the espoused project benefits will not materialize. This is because they do not feel able to create local markets and work to their own initiative. Indeed, to date initiative has been discouraged. All farmers expected that the project would buy the dairy goats from them and market them elsewhere. Typical remarks include:

*The project told us we are not allowed to sell the goats by ourselves. We have to sell as a group to make sure we can sell at a high price. The project will find the market for us (woman, Konke).*

*There is a really big difference between the local goats and the dairy goats. The dairy goats cost more to rear. The local market cannot take them. We will have a loss if we sell them in the local market. It is up to the project to find the market for us.*

*We cannot get an agreement with a local buyer—they will want to buy our goats at the local price (man, Masinyeti).*

Regarding goat milk sales, women in Konke said:

*The project promised us to make a market for the milk but so far we haven't seen it.*

*There is no local market for goat milk. If someone needs cow milk they can just go and buy it.*

*At the moment very few of us are milking goats. I am worried that when all the goats have kids that there will be too much milk.*

*I buy milk for the children and for myself.*

*The project must find the market for goats' milk.*

A man in Masinyeti added: *There is no market in the village for milk at the high price we want to sell it for.*

The belief that the CGP Tanzania Project will find markets for dairy goats and their products is erroneous and could be highly damaging to the project. The source of this misconception is unclear. The next section examines work to date on the value chain component to help understand if farmer concerns are justified.

## Value chain component

Value chain development is an integral part of the CGP Tanzania Project. The second goal of the project is: Increased incomes from sales of goats, goat milk, sweetpotatoes and cassava products. This will be measured by (i) changes in household income and income managed by men and women, and (b) changes in contribution of goats, sweetpotatoes and cassava to household income.

16. USD 1.00 = TZS 1666.47 at 10 July 2014.



The study team planned to examine cassava and sweetpotato markets through small group discussions with project beneficiaries, but these markets are currently non-existent in the case of sweetpotato, and very small in the case of cassava which is grown ubiquitously. The team therefore focused on dairy goat milk and meat marketing in each study site, though a short discussion was held on cassava in Konke. A discussion was also held with Jerimia Makindara who is responsible for coordinating and managing the value chain/marketing aspects of the project.

## Value chain development

Masters' students have carried out scoping studies in the project sites and this data is still being analysed. Following completion of these analyses, the expectation is that participating farmers will be trained on entrepreneurship and how to link to markets by the end of 2013.

With respect to goats' milk, it is clear that local markets are generally weak. There is a small market for fermented cows' milk in Kongwa town. Goats' milk is not marketed currently. In Konke, cows' milk is readily available. The challenge will be to create an equivalent local market for goats' milk in each project site. This will be achieved through focusing on the nutritional benefits for children.

There is no local market for dairy goats because it is simpler and cheaper to keep local goats and so farmers will be advised on how to market dairy goats at the district level and beyond. Currently, this potential market is not known.<sup>17</sup> Table 4 shows the purchase price to the project of dairy goats purchased for farmers, and the current price of local goats in Ihando village. The price differentials are huge, particularly for dairy goat bucks (five to eight times more expensive than local goat bucks), with dairy goat does costing approximately twice as much as local goat does.

Table 4. Comparison between dairy and local goat prices

Dairy goat	Tanzanian shillings (TZS)	Local goat	TZS
Buck (Toggenburg/Norwegian)	400,000	Food shortage (Feb–March/April)	
		Doe	40,000/- to 50,000/-
		Buck	50,000/- to 60,000/-
Doe (Toggenburg)	120,000	No food shortage (April to Jan)	
		Doe	60,000/- to 70,000/-
		Buck	70,000/- to 80,000/-
Doe (Norwegian)	150,000		

Source: CGP Tanzania team members; respondents in Ihanda (February 2013).

It is immediately obvious that dairy goats cannot be sold on the local market given the low purchasing power of inhabitants. Table 5 presents reported household income in project villages in both districts during the baseline study. Adjacent control villages in both districts exhibit much lower purchasing power than the project villages which implies an even more restricted local purchasing base.

Table 5. Incomes in project villages

Characteristic	Kongwa		Mvomero	
	MHH	FHH	MHH	FHH
Average household income	(n = 166) 638,000	(n = 57) 253,000	(n = 184) 2077,000	(n = 31) 765,000
Per capita income	124,000	53,000	403,000	303,000

Source: CGP Tanzania baseline study (adapted).

17. The information in the three paragraphs to this point was supplied by Jerimia Makindara. Key informant interview. 27<sup>th</sup> February 2013.

As noted in the previous section, the participating farmers are caught in a bind that they are highly aware of. On the one hand, the sale of dairy goats at the same price as they were purchased would allow them to meet key lifetime goals as well as meet basics including school fees and the indirect costs of schooling (books, uniforms, schools). These hopes are the key motivating factors for joining the project. At the same time, they clearly recognize that (i) the opportunity costs of keeping dairy goats are very high in terms of goat house construction, purchasing of feedcake (since the cassava/sweetpotato aspects of the project are not yet functional), directing labour to securing water and fodder, cleaning their stalls and health care, and (ii) that no local market is capable of providing them with a return to these investments.

The study finds that it is not yet clear how the project will help the farmers market their products. This appears to be an outcome of the researcher bias highlighted in Part I. In this particular case, there are lengthy time periods between data collation and the production of results and recommendations. Also, it is questionable whether the masters' students involved will produce the results in the format required for decision-making. Project staff defended their approach to value chain development as follows.<sup>18</sup>

*'Component leaders are aware of markets, but because yields are currently too low we cannot start linking farmers to markets. There is a strong market in cassava though this is likely to diminish due to climate change. There are local markets and people can sell cassava along the road.'*

*'The milk market does not yet exist but it will develop as the farmers start to produce. They have to create a local market. Perhaps we can establish a local collection centre. People will start to imitate success—if a neighbour sees that someone is selling milk they will get involved. However, the primary aim is to produce milk for domestic consumption. So, we are telling them that they should not expect to sell all the goat milk. Kongwa in particular is very vulnerable and the inhabitants often get food aid from the government. We want to help them improve their situation at the household level, and to show that goats can act as a bank too.'*

*'We will start training the farmers on value chains and markets once they actually start getting the milk. We will show farmers how to map the value chain and ensure that both women and men participate. We will discuss with them how to ensure the roles of women and men are shared along the chain. For example, with cassava we will talk about processing, drying, packing and sending the product to further processors who will connect them to wider markets. Regarding dairy goats, we told the farmers that we would link them to markets for the sale of animals, but for now we are asking them to continue with the management practices. We are also planning a study visit for the farmers to Arusha or Mgeta to help them understand about marketing.'*

The total absence of the private sector from any role in the CGP Tanzania Project is very worrying given the centrality of value chain development to its goals and outcomes. It would have been preferable to identify and involve private sector actors in program design, ensure they enrol themselves onto the project's gender equity agendas through setting appropriate Terms of Reference, and to work with them to either find existing markets or to secure advice on how to create new markets.

It would also have been preferable to involve farmers from the very beginning in participatory value chain analyses. It is clear that they have not been involved at all in any form of value chain mapping or analysis. This leaves them stranded in the role of passive beneficiary, waiting anxiously to be told what will happen to their goats, faced with the daily chores of feeding, watering and caring for their goats, as well as wondering when they can start to recoup their substantial capital investment costs.

18. Joyce Lyimo-Macha. Key informant discussion. Sokoine University. 28.02.2013.

## Gift giving and barter

Gift giving and barter is an important livelihood strategy and means of maintaining social capital in the project villages. Interviews with women and men in Ilanda showed that women and men both engage in gift giving to 'maintain social relations' and to ensure sufficient food in times of hardship. Women said: *'Giving gifts to each other is our natural behaviour. We give gifts if we feel pity for someone, for example if they do not have enough food. We also give gifts so that no one calls us selfish. We want to maintain social relations. We don't want to be alone. Both women and men give gifts. Gifts are not only to do with the farm. We may give salt or flour. We don't expect to get anything back directly, but we do expect to be helped when we need help.'* Typical gift products include maize, peanuts, flour, salt, cassava. Some gifts are given to a mother with a new born baby. These include honey, some sugar, soap, cloth, a hen and milk.

Male respondents in Ilanda emphasized the importance of gift giving and barter. With respect to barter, they reported that vegetables and beans could be exchanged. Current barter rates are:

- Five local goats for one cow.
- Ten hens for one goat or one sheep.
- One small cow and one sheep for one big cow. This happened during the day of our visit.
- In the future, it may be possible to exchange one dairy goat for one local goat plus TZS 30,000/-.

Given the well-articulated practices of gift giving and barter, the proposed study into gift giving<sup>19</sup> which will focus only on cassava seems too limited and will not contribute sufficiently to project understanding of local informal markets and exchange. First, it is questionable whether cassava is a sufficient proxy for gift giving behaviour since gifts have different meanings and functions. Second, the report does not mention gender as a variable yet gift giving and barter have strong gendered dynamics and are likely to contribute significantly to the creation and maintenance of social capital. Women and men are likely to gift/barter different commodities as well. Focusing on one commodity will fail to capture these gendered dynamics and therefore may contribute little of value to the understanding of a project working with three commodities. Indeed, it is quite likely that women dominate gift giving and barter in cassava but that men dominate in livestock gift giving and barter. This has important implications for the project and informal market development.

## Dairy goat component

The dairy goat component recognizes the importance of goats to the Tanzania rural economy. Goats provide meat, milk, skins and manure, and can be sold easily in times of need to obtain cash. However, local breeds have low growth rates, small mature size, low carcass weight and low milk production. The aim of the dairy goat component is to introduce tried and tested dairy goat breeds adapted to the local environment to improve milk production. Given that dairy goats require protein, but oil cakes and fishmeal are expensive, the project aims to ensure that the dairy goats receive enough protein through developing supplementary rations based on cassava leaf meal and sweetpotato vines.<sup>20</sup>

## Summary of dairy goat component

Farmers have been trained in all aspects of dairy goat husbandry. Delivery of goats is somewhat behind schedule. A total of 66 Norwegian goats (60 does and 6 bucks) and 76 Toggenburg goats (70 does and 6 males) were purchased and distributed between March and April 2012. Further goats were distributed in September 2013 to replace goats that had died. So far, very few goats have kidded. This is partly because it is proving hard, despite training, for farmers to identify when females are on heat.

19. Zigab et al. 2012.

20. This and the following paragraph are based on Chenyambuga, S. 2012.

## Discussion of dairy goat component

The dairy goat component is working very well from a veterinary point of view. The project coordinator visits the project villages once a month and takes blood and faecal samples from each animal. Faeces are tested for helminthosis and coccidiosis. Blood is tested for haemoparasites. All goats are checked for clinical and surgical conditions with treatment provided for sick animals as appropriate. These visits provide the project coordinator with the opportunity to check the quality of general animal care, advise owners on improving their management, and to check that the cards used to record mating, the birth of kids, and the weight gain of kids are properly maintained. The strong investments by the project are resulting in a high standard of animal health and care. However, respondents to the study in all project villages visited noted that the opportunity costs of keeping dairy goats are high. The chief costs are summarized below.

1. **Goat House.** It is costly to construct a goat house since no wood is available locally and thus has to be purchased and transported. Single women can find this very difficult. One such woman in Ihanda reported. *'In my case I have no children so I do everything. I bought wood for the goat house, I paid for the transport, I paid for the fundi. It cost me 80 000/-.'*
2. **Fodder.** It is time consuming to source sufficient fodder. Respondents reported that they had to spend at least an hour a day on cutting and transporting grass. Some men and women said that they did this alongside their other tasks, and that children were sometimes involved, but others said they had to take time specially. Women in Konke said: *'The most difficult work is getting the grass from the forest. It takes an hour on foot to get there, half an hour to cut the grass if there is plenty (in the dry season one hour) and then an hour coming back. If you have a bike it takes ½ hour each way ... The grass cuts your feet and there are snakes.'* Men in Ihanda said, *'The goats eat excessively. The project should supply us with knives to cut the grass.'*
3. **Water.** Obtaining sufficient water is already a moderate challenge and will become a significant challenge in the dry season. In Ihanda village the nearest non-saline source of water is six km away and water will need to be transported by bicycle or truck. Water will need to be transported anyway for household use but additional water will now be needed for the goats. One woman said, *'We want the project to bring us a water pump. It is tiring to get water. You have to walk to get water and then there are often many people there. I carry one bucket in my hand and one on my head. It is a burden to get water for the goats as well as ourselves.'* A second woman argued that goats did not need much extra water. Men in Masinyeti said, *'Right now getting water is not a problem, but it will be in the dry season. To get water we have to walk for three hours round trip. When you get to the water point there is often a queue.'*

Difficulties in sourcing fodder appear to translate into impacts on goat weight gain, even though the dry season had not begun at the time of the study. Record cards for kids show fluctuating or slow weight gain for some animals with December 2012 a difficult month for most farmers. Table 6 provides an extract from Chumvi chumvi village. Farmers explained to the study team that weight fluctuation is due to difficulties in securing sufficient fodder. Project staff say these cards remain to be verified with respect to accuracy of data entry.

Table 6. Kid weight gain in Chumvi chumvi

Kid tag	DOB	Bwt	Aug 12	Sept 12	Oct 12	Nov 12	Dec 12	Jan 13
18322	13/09/12	3	–	7	9	12.5	12	–
18323	13/09/12	2.5	–	6	10	13	11.5	11
18491	25/08/12	3	5.5	13	–	18.5	17.5	19
18492	25/08/12	2.5	5	12	–	18.5	17	18
18493	18/08/12	3	–	13	15	17.5	15.5	21
18497	21/08/12	3	–	20	17.5	22	20	22
18571	01/11/12	3	–	–	4	10.5	12.5	14
18942	24/12/12	2.5	–	–	–	–	4	8

Source: CGP Tanzania Project—Kid details.

Furthermore, owners of bucks, who do not receive any compensation for the buck's mating services, noted that although the owners of does to be mated are asked to bring fodder for their animals for the day, they do not always do so since fodder is hard to obtain. This means that the buck owner has to find food for the doe in many cases. One female farmer said: *'I keep the buck for free. It is normal for me that I am not paid for its services. The only direct benefit I get is that it mates with my goats. The only thing is that people do not bring any food with the doe though we agreed this. Then I have to feed her for several hours. It is because there is a lack of food, that they cannot bring the food. Even their own goats lack sufficient food.'* A male farmer in Ihanda claimed: *'I feel good because for each successful breeding I understand that we are making steps towards the project intention in our village'*. However, in the longer term it may be reasonable to consider some sort of recompense for buck owners since otherwise they will be faced with caring for their animals with no reward apart from prestige.

Table 7 (parallel page), created by male respondents in Konke, shows that men are responsible for the building of the goat house, although women in female-headed households need to find sufficient monies to purchase and transport wood, and also employ a craftsman (fundu) to build it. More investigation is required into how project farmers finance these costs. Respondents indicated that they have to take out loans. Other tasks, according to the respondents, are fairly equally shared by women and men with the only 'pure' female task being the boiling of water. Female respondents in Masinyeti developed a simpler table. See Table 8.

Table 7. Dairy goat care; Tasks by gender

Construction of goat house	Goat management	Treatment	Milking	Mating	Marketing of goat	Spending of income from sale of goat
Sketch layout of the goat house (M)	Cut grass (M/F)	Confine goat (M/F)	Boil water for milking (F)	Take doe to the buck (M/F)	Conduct market search (M/F)	Send children to school (M/F)
Transport/ arrange transport of construction materials (M)	Carry grass (M/F/C)	Dipping (M/F)	Clean utensils for milking (M/F)	Confine doe (sometimes) and confirm mating occurred (M/F)	Decide price (M/F)	Construct family house (M/F)
Purchase materials (M)	Feed goat (M/F/C)	De-hoofing (M/F)	Clean goat udder and teats (M/F)		Sell goat (M/F)	Expand agriculture (M/F)
Find fundu (M)	Clean goat house (M/F/C)	Check if goat is eating normally (M/F)	Transport milk to buyer and selling (M/F/C)	Bring doe home (M/F)		Purchase feeds for remaining goats (M/F)
Construction (fundu)	Prepare concentrates (M/F)	Take goat out for exercise (M/F/C)		Check if repetition of heat cycle		Purchase tools for de-hoofing (M/F)
						Pay back loan(s) used for construction of goat house (M/F)

Source: Male farmers in Konke.

Table 8. Responsibilities for goat management by gender

Responsible	Activities	Parents		Children		
		Male	Female	Male	Female	
1	Mother	Manage and feed goats	X	X	X	
2	Mother	Sweeping the shed	–	X	X	X
3	Mother	Health observation	–	X	X	X
4	Father and mother	Facilitate mating	X	X	–	–
5	Mother	Management during goat pregnancy	X	X	X	X
6	Mother	Milking	X	X	X	X

Source: Women farmers in Masinyeti.

Table 8 shows that tasks are shared, in the main, between women and men as well as children. However, the women respondents specifically noted that task sharing was not the same as being responsible for the fulfilment of a task. Using this criterion, women are responsible for ensuring all tasks are performed apart from mating, where both women and men are involved. Women explained that they were responsible for dairy goat management because:

*During the morning, who looks after the goat? The mother wakes up earlier than the father. I'm the one who wakes up early. If the goat is sick the woman has to go and see. A man could be going to see another woman. He may not be home.*

The respondents were adamant that children should not get involved in arranging mating: *You cannot send a child under 15 to call for the buck. They just laugh when they see the animals mating. Children go to school. They don't understand about these things.* However, they involved children in many other goat-related activities.

These findings are important because a critical concern of the project is that it does not cause an increase in women's workloads. It seems that women are chiefly responsible for ensuring the health and care of goats, but that men and children play a role. It is not clear from the study trip how much work is actually performed by women and men, and children, on a daily basis.

## Root crop component

The aim of the root crop (cassava and sweetpotato) component is to create an integrated virtuous circle whereby the nutritional needs of dairy goats for protein are met through processing cassava leaves and feeding them with sweetpotato vines, and human consumption needs are met through consumption of the roots.

The project established a sweetpotato seed nursery in January 2012. Dissemination of four varieties of sweetpotato cuttings (80 cuttings of each/120 cuttings per farmer) was conducted in March for Kongwa and in April for Mvomero. It is not clear why only two of these are orange-fleshed given the intended contribution of the project to improved human nutrition. Data for vigour, disease score, and yield, as well as acceptability tests were held. For cassava, farmers in both districts were supplied with 120 stems of cassava (one variety per location). Farmers were trained in sweetpotato and cassava husbandry. Despite all this work, to date this component has not worked as planned. This is for several reasons.<sup>21</sup>

- The rains failed. As a consequence some farmers in the Central Zone want to plant their sweetpotatoes in dambos but many farmers do not have access to dambos. During the study team's visit to Kongwa, one male farmer showed his lines of sweetpotato. He said they were not growing well due to water shortages.
- Livestock have consumed some of the sweetpotato plants. Livestock also disturbed some of the cassava plants.
- Theft of both sweetpotato and cassava roots is a problem. This is due to widespread food shortages. Indeed, the study team observed uprooted cassava plants.
- Incorrect planting remains a problem.
- In Kongwa, one goat died when the farmer tried to feed it with cassava leaves. This is because the leaves had not been processed properly to remove the cyanide.

Taken together, this means that one of the most critical parts of the CGP Tanzania Project is not working to date, namely the production of sweetpotato vines and cassava leaves for dairy goat fodder. Clearly, no contribution can be made to improved human nutrition either. Farmers said:

*In Mvomero, the success rate of cassava and sweetpotato was not investigated.*

*In Ihanda there has not been enough rain this year. The sweetpotatoes didn't work.*

*We used to grow local varieties around the pond but we are not doing this now due to the lack of water.*

21. The second paragraph and the bullet points are largely based on Mtunda and Msemu (2012).

Male farmers in Masinyeti said:

*Root crops are challenging here. It rained for just one day and then planting material was bought here. We waited for some days for the rain and then planted it, but the rain did not come back and the material died.*

*I had some of my own cassava from the last season.*

*We have plenty of cassava here. But we don't have sweetpotato. It is difficult to procure the seeds for the next season. We don't have enough water for the seedlings.*

*We need planting materials. Can they come again with more?*

The respondents explained—as is already confirmed by the baseline and other studies—that cassava is important in barter and social support systems. It is also traded in local informal markets. External markets exist. Sweetpotato is grown, particularly in Mvomero, but fields are far from farmer houses. Sweetpotato is very difficult to grow in Kongwa, not just in drought years but in most years due to low rainfall. Most sweetpotato is sold to external markets and is rarely consumed at household level in both locations.

Whilst improved cassava may work well at both project sites, it may be particularly difficult to encourage cultivation of sweetpotato, particularly in Kongwa. One way forward may be to introduce improved watering systems. It would also be important to highlight the nutritional benefits associated with orange-fleshed sweetpotato (OFSP) as part of the food security and nutrition component.

## Household food security and nutrition component

The direct aim of the CGP Tanzania Project is to increase food security amongst smallholder farmers in Tanzania, with an emphasis on marginalized households (particularly poor and women-headed). The first goal of the project is: Increased household food and nutritional security from the interaction between root crops and dairy goat at the farm level. There are three indicators associated with this goal, (i) changes in individual dietary diversity scores for male adults, female adults, and index child, (ii) changes in household food consumption score and contribution of goats, cassava, and sweetpotatoes to the food consumption score, and (iii) changes in the number of months of inadequate household food provisioning (compared to national or regional averages).

## Summary of food security and nutrition component

The baseline survey indicates that, in Kongwa, less than half the respondents reported that they had sufficient food in the 12 months prior to the survey. However, over half the households in Mvomero reported having had enough to eat in the same time period. The majority of households have an acceptable Food Consumption Score (FCS) of >35, though households in Kongwa exhibit much lower overall FCS. The contribution of animal sourced foods (milk, meat, eggs) is similar across households, constituting around 20% of overall FCS. In both locations, the FCS of female-headed households is lower than that of MHH. The baseline notes that fruit is not consumed regularly. The project does not address this.

An MSc student has carried out a number of studies in the project sites and is currently writing up her results. The aim of her work is to provide baselines to see if the CGP Tanzania Project has an impact upon child nutritional status, household dietary patterns and gender relations in terms of decision-making around food. Does the introduction of dairy goats and root crops impact upon how children are being fed?

Key preliminary baseline findings, according to the student, are:<sup>22</sup>

- Stunting is high in all project sites, at around 65.5% in the dairy goat groups.

22. Key informant discussion with Pamela Meena. 27.02.2013.

- Stunting is not only a factor of food insecurity. It is partly due to culture. Women start to wean infants at the age of one month in the belief that they do not have sufficient milk. Women also feel that they do not have enough time to breast-feed. Babies are fed three times a day on maize porridge. This is not enough for the growing child. Pastoralists feed babies cow milk but only feed them twice a day.
- Although women readily take their children to clinics, they are not being taught how to feed their children properly.
- Maternal weight and height is usually normal. It is not clear why women are of a normal weight yet children are often stunted.
- In Kongwa, men usually eat first, followed by wives and children. They typically eat sorghum ugali, maize ugali, dried fish, beans of various kinds, a lot of green vegetables but few fruits.
- In Mvomero, the family usually eats together. Food diversity is higher.
- Men typically take consumption decisions in the household. If a woman wants to provide a cup of milk to a child she must ask her husband first. Should he want to sell the milk then he will simply say no. If the children are hungry the woman must ask the husband if she can buy food.
- Female-headed households make all consumption decisions. Whilst they have less assets than male-headed households some obtain assets from their fathers, including use rights to land and also goats.
- There are very high rates of formalized and non-formalized polygamy. Men can be married to two or three women, and in such cases help them on the shamba by tilling. They may also have girlfriends, but they do not help such women with any farm work. Women in all households do almost all the farm work. Women in female-headed households are entirely responsible for finding school fees and meeting other costs associated with children. Women want children regardless of marital status since this increases their standing in the village.

The project has already led to some changes. These include:

- Some men—but not all—are starting to realise they have to take care of the family too, that it is also their responsibility to ensure that children—as well as women—are getting enough food. They are beginning to see that they can take care of the children, ensure access to health services and to share the work.
- Women are getting some power to speak and discuss with men. They are trying to communicate with their husbands.
- Change is most rapid in female-headed households due to their relative autonomy and also because they are offered specific help by the project.

## Discussion of food security and nutrition component

The baseline study and the MSc study show that stunting is a factor of culture as well as environment. There is strong male domination of decision-making around overall food allocation. This, coupled with poor understandings of how best to feed children and overall food deficits at certain points in the year lead to unacceptable levels of food security and nutrition.

Some farmers met in the course of the study appear to associate goat milk with a range of health benefits that seem to lack scientific validity. It is important to ensure that correct information is delivered. The overall CGP Tanzania study does not place a strong emphasis on orange-fleshed sweetpotato (OFSP) even though these offer much higher Vitamin A content than white-fleshed varieties. Some OFSP are being introduced alongside white-fleshed varieties. The project literature and associated strategies do not highlight the health benefits of OFSP.



It is not clear from the documentation whether the nutritional aims of the project provide an exact match to the nutritional deficits among the target populations. An overall understanding of the beneficiaries' health status is missing, as is their understanding of 'health' and 'food security'. Institutional mapping of the health providers already operating in the country/districts is missing.

The project does not set out a clear Food Security and Nutrition conceptual framework. However, these concepts are fairly complex and are also contested in the literature. The project tends to blur the concepts in general documentation, even though they are conceptually distinct. A conceptual framework, which sets out agreed understandings of food security and nutrition, relevant to the local context, would help ensure the development of tailored, locally relevant strategies.

## Recommendations

The CGP Tanzania Project benefits from superb baseline and other analytic work. Senior staff at the Sokoine University of Agriculture, and the University of Alberta, provide a vast pool of wide-ranging expertise to the project. Students at both universities are preparing rich studies likely to be critical to the success of the project. Work in the field has commenced and is being performed in a conscientious and timely manner. Gender equity is integrated into the way of working in the project, as well as being a key objective. Reports on work in progress clearly detail successes and openly discuss failures, and suggest ways forward.

With regard to the technical components, the dairy goat component is particularly successful in terms of ensuring the animals are well cared for. The root crop component is suffering important difficulties largely due to insufficient rain in Kongwa. The value chain component, and the food security and nutrition component, are still at the analytic stage.

The report acknowledges these many successes. It also notes that some parts of the project could be tightened up. A particular area of concern is ensuring effective research into development pathways. Work on gender could be strengthened by developing an 'empowerment framework'. The food security and nutrition component would benefit from a similar exercise. Part 4 details recommendations and provides a few examples. The recommendations follow the sequencing of discussion in the report.

### Create a development conceptual framework

The project already has a Research Framework, but it needs to clearly articulate its conceptualization of 'development' and how this will be achieved. The development assumptions that are currently embedded in the project need to be disinterred and examined critically. Key elements of a Development Conceptual Framework could include the following:

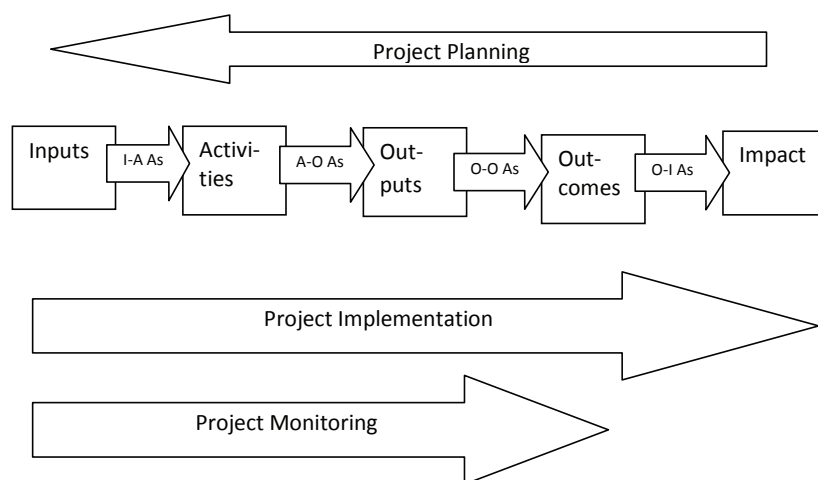
- a. Research into use pathways.
- b. Gender(or women's) empowerment framework.
- c. Food security and nutrition framework.

The latter two points are discussed below. With regard to research into use, it will be useful to set out modalities for ensuring that research products directly support the development arm of the project. If there is an unclear association between intended research outputs and the development requirements of the project this needs to be justified.

A useful way of ensuring rigour in the Development Conceptual Framework would be to develop an Impact Pathway. This would help to ensure that the intended impacts are clearly articulated, linked to intended outcomes, and then associated with the appropriate outputs, activities and inputs. This can be matched with the work in progress on monitoring and evaluation. Figure 3 depicts an indicative impact pathway. The top arrow shows that project planning needs to work backwards from impact. Monitoring would stop at the outcome level, because the translation of

outcomes into impact would depend on the effectiveness of project handover to beneficiaries, the private and government sectors, and any other stakeholders.

Figure 3. Indicative impact pathway.<sup>23</sup>



The key words in Figure 3 are:

- **Inputs:** The financial, human and material resources used for the intervention.
- **Activities:** Actions taken or work performed through which Inputs are mobilized to produce specific Outputs.
- **Outputs:** The products, capital goods and services which result from the intervention.
- **Outcomes:** The likely or achieved short- and medium-term effects of the Outputs.
- **Impact:** Positive, negative, primary and secondary long-term effects produced by the intervention—directly or indirectly, intended or unintended.

The project currently stops at the outcome level (see M&E Frameworks, Milestones). It would be useful to focus more sharply on the links between activities and outputs, and to specify more clearly how these will result in the desired outcomes. This would be a particularly useful exercise to help tighten up the thinking around the achievement of gender equity, and improved food security and nutrition.

Expanding the analysis to consider the long-term impacts of the intervention would help clarify the risks and assumptions underlying project rationale. It would also help in the formulation of an exit strategy, since part of the work involved in determining pathways from outcome to impact will require identifying partners to help carry forward key elements of the project.

## Develop more empowering project–farmer relationships

The fieldwork findings seem to show that despite the participatory rhetoric, farmers are very much seen as objects of the intervention. This is reflected in the top–down targeting strategy, and in the fact that farmers are not party to the project’s entire strategy. Rather, it is revealed to them in stages, meaning that they cannot co-create the project. One unintended consequence is farmer anxiety around their participation in the project, and of course creates unwanted dependency. Suggestions:

23. Gerry Gill. Presentation to CIMMYT-CCAFS, February 2013.

- Commission a farmer-centred participatory mid-term review. This would need to be gender-responsive and to examine all aspects of the project to date, including the various components as well as farmer-staff interactions. The respondents should be able to make suggestions for improvement and be asked to outline ways in which these can be realized.
- Embark on participatory indicator development. Participatory community level indicator development is discussed in the documentation but it is difficult to find out whether indicators have actually been developed, and if farmers are involved in their monitoring. Developing community level, gender-responsive indicators will support the recommendations that gender empowerment, and food security and nutrition frameworks, be developed.
- Develop Better Targeting Strategies. Targeting of project beneficiaries should be improved to ensure that participants wish to be in the project, and that the pro-poor, pro-women 'project values' are reflected in the selected targeting approach. See Box 2.

#### Box 2

The experience of IFAD<sup>24</sup> provides some useful guidelines. IFAD has learnt that whilst targeting is critical to achieving pro-poor, gender-responsive development, targeting instruments need to be developed with great care. Direct targeting, IFAD argues, should be largely conducted with local communities who should be tasked with developing eligibility criteria through a transparent process. IFAD further suggests that programs need to be designed in such a way that they 'self-target' the intended beneficiaries To avoid elite capture. From the outset, the program needs to *'be crafted around the assets, livelihood constraints, productive potential, development opportunities and priorities and aspirations of poor people. Only in this way will activities and services supported be relevant to the identified target groups and within their means. A project has a better poverty focus when the mix of benefits offered and transaction costs involved are attractive to the poor but not to the better-off, and when they take into account people's availability in terms of time, labour and capital. Conversely, it is necessary to pay attention to factors that may inadvertently exclude certain groups of people, such as requests for contributions or attendance at meetings, which may not be feasible in terms of cost or time for the poor, especially women.'*

Based on the evidence provided, the current project needs to pay more attention to the transaction costs of participation, particularly for resource-poor households and particularly for some female-headed households. Improving targeting can involve the following:

1. Democratize the direct targeting process by soliciting the fuller participation of community members in beneficiary selection.
2. Improve levels of self-targeting by designing economic empowerment activities in collaboration with potential beneficiaries to ensure the activities and support given fit the objectives and assets of these groups.
3. Disaggregate youth to mean young men and young women at all times as well as disaggregating targeting by adult women and men to ensure that interventions are not norm-referenced to the interests of adult men (or young men etc.).

## Develop a gender empowerment framework

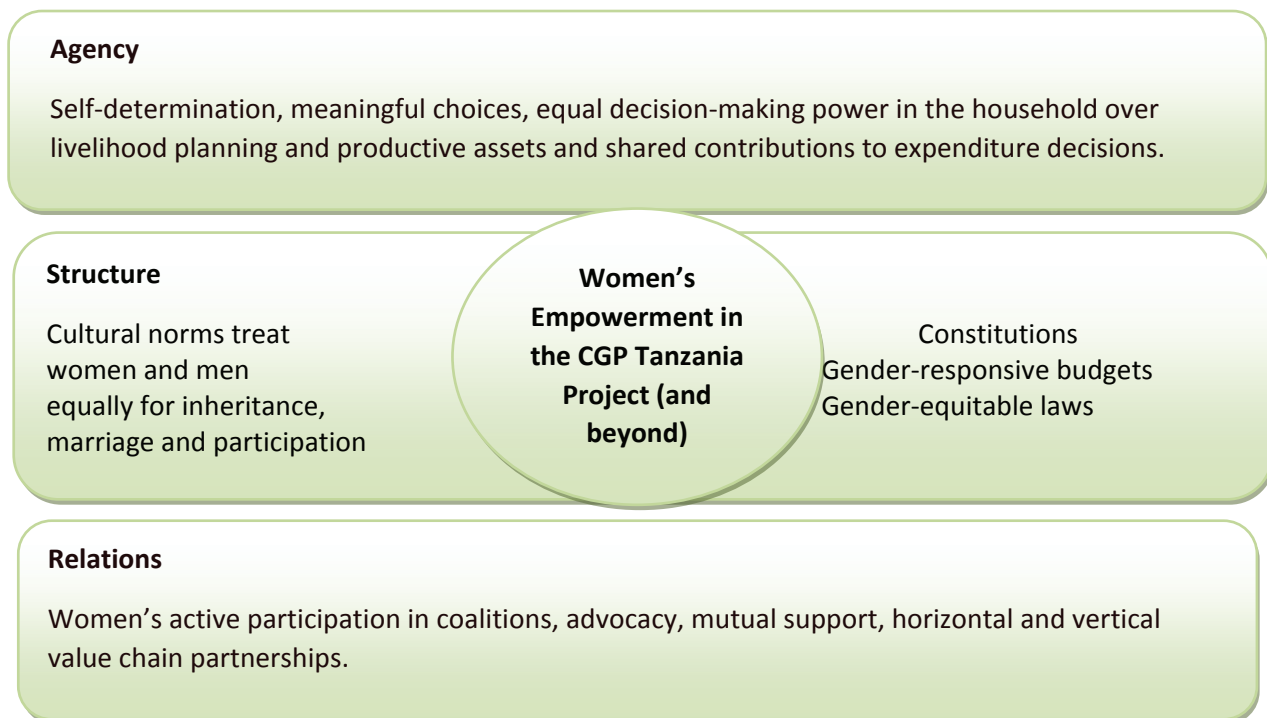
The project has a well-articulated gender strategy and it benefits, too, from the embedded expertise and local knowledge of the gender focal point and other staff. However, it lacks an overall gender empowerment framework. It would be very useful to develop such a framework to critically examine the assumptions lying behind the gender strategy, and to ensure that there are no 'loopholes' in the project's approach to empowering women.

24. IFAD (2006) Targeting Policy: Reaching the Rural Poor.

One way forward would be to examine the work of various development partners in creating empowerment frameworks. CARE, for instance, has developed the idea of three interconnected ‘empowerment dimensions’.<sup>25</sup> These are **agency**—the ability to make our own choices and act upon them; **relations**—our ability to create, participate in, and benefit from networks; and **structure**, which has two dimensions. First, structure includes the organizational forms everyone can see, such as producer cooperatives and marketing boards, the Ministry of Agriculture, as well as the laws and the policies that determine people’s rights. Second, structure refers to the invisible norms that underlie and ‘justify’ the way organizations are set up, and how laws are formed. In many agrarian societies, for instance, sons rather than daughters tend to inherit land (invisible norm). The laws of the land may support this practice through acknowledging customary law (visible expression of the norm). It is important to appreciate that unequal power relations shape each of these dimensions.

Figure 4 provides an overview of the three empowerment dimensions and provides indicative outcomes for empowered women and men. Based on such a figure, the project could start to pull out and develop activities leading to such outcomes. Figure 4 is of course indicative and the project would need to populate such a figure with its own outcomes and supportive activities and outputs. Wider gender-responsive development impacts are included to help show that the project could intentionally work towards some of these impacts through supporting change in customary land allocation practices, the participation of women in value chain platforms etc.

Figure 4. Three empowerment dimensions.<sup>26</sup>



## Strengthen farmer livelihood planning

The study shows that farmer expectations of the project are high. It would be helpful to work with the farmers to develop household level visions and action plans. These visions should not be product-specific, but rather focus on achieving goals within the short, medium and long term. There are many approaches to doing this, and almost all include a form of SWOT (strengths, weaknesses, opportunities, threats) analysis, and time bound action plans. One of the most effective approaches is to work with household methodologies. See Box 3.

25. CARE (2009). A Place to Grow. Empowering Women in CARE’s Agricultural Programming.

26. Diagram developed by the author of this report.

## Box 3

Household methodologies build on a growing consensus in the development community that it is not possible to talk of a unitary household with a single goal in many parts of the world. Rather, women and men often run separate, individually managed production and consumption activities. However, women usually have fewer productive assets than men; are typically less able to take independent economic decisions about their enterprise; often have to pass an important share of their income to their partners; and often work for their husband's enterprise as well their own. In many cases, women cannot take key farming decisions in the husband's absence, or the man may assume he should receive training even if he is not the lead farmer. All of this hampers the motivation of household members, the development of good businesses and productivity, and can negatively affect food and nutrition security.

Many efforts to support the empowerment of women fail to address their role and status within the home. For example, are women really empowered if they belong to a successful income-generating group, yet remain unable to make key decisions about how the money they earn is used in the home? Similarly, much work has been done to strengthen women's decision-making capacities within groups and organizations, but women still often lack a voice in determining household priorities and spending patterns, securing food security and school attendance of their children and addressing their own health-care needs.

Household methodologies target gender relations within the 'black box' of the household. They work to bundle the disparate livelihood strategies pursued by women and men (her plot, his plot etc.) into one coherent strategy. The formation of a 'family vision' to which adult family members contribute—along with children, in many cases—enables the family to conceptualize and work towards shared, time-bound goals. Critically, household methodologies do not seek to empower women at the seeming expense of men. Rather, during the process of planning a household livelihood strategy, all household members come to realize that working together is a win-win solution that benefits everyone.

Household visioning tools are part of these methodologies and can be facilitated in various ways, including individual home visits by a trained mentor or government extension worker; skills development at the group level with implementation at home, supported by peer group members and trained facilitators; community-led analyses of gender relations; and individual and multistakeholder analyses around livelihoods planning and value chain development. Household methodologies have been developed around the world. In sub-Saharan Africa, tried and tested approaches include the (i) Agricultural Support Programme, Zambia, funded by SIDA<sup>27,28</sup>, and associated approaches in Malawi and Uganda (ii) the Gender Action Learning Systems (GALS) co-developed by OxfamNovib<sup>29,30</sup>, which has been rolled out in several SSA countries and in Latin America with IFAD funding, and (iii) Household Gender Analysis for Gender Transformation, funded by SIDA in Ethiopia.<sup>31</sup>

27. A facilitation manual for the household approach, 'A Handbook for Facilitators', and other detailed material on the Agricultural Support Programme, ranging from 'how to' guides to consultancy reports, can be found on the following website: <http://asp.ramboll.se/>.

28. Farnworth, C.R. 2010. Gender-aware approaches in agricultural programmes: a study of Sida-supported agricultural programmes. Sida Evaluation 2010: 3. Also: Farnworth, C.R. and Munachonga, M. 2010. Gender aware approaches in agricultural programmes – Zambia Country Report: A special study of the Agricultural Support Programme (ASP). Working Paper 2010:8. Secretariat for Evaluation. Sida. Also: Bishop-Sambook, C., and Wonani, C. (2009). The Household Approach as an Effective Tool for Gender Empowerment: A review of the policy, processes and impact of gender mainstreaming in the Agricultural Support Programme in Zambia.

29. [www.wemanglobal.org](http://www.wemanglobal.org) and also 'Mapping the roads to change: women's empowerment in western Uganda using the Gender Action Learning System (GALS)': <http://www.youtube.com/watch?v=dGtFnUAYK0k> (part 1) and <http://www.youtube.com/watch?v=whoZ2GuBnrQ> (part 2). Gender Action Learning in the coffee value chain in Western Uganda: <http://www.youtube.com/watch?v=2ZWgm6ZYMUU> (part 1) and <http://www.youtube.com/watch?v=HcyGLZ8eIM0> (part 2).

30. Farnworth, C. R. and Akamandisa, V. (2011) Report on Gender Action Learning Systems (GALS) Approach to Value Chain Development in Bukonzo Joint in Uganda. For OxfamNovib and GIZ. November 2011.

31. Farnworth, C.R. and Shiferaw, N. (2012). Forward Looking Assessment of HARVEST Gender-Responsive Livelihood Diversifications for Vulnerable People. Prepared for SIDA-Ethiopia Team. July 2012.

## Value chain component

The value chain component is very much under development. Results from the masters' students scoping studies will be available soon. It remains to be seen whether recommendations will be gender-sensitive. There is, however, no doubt that value chain development in goat milk and in live dairy goats is critical if the high opportunity costs of caring for dairy goats are to be recovered. Some general remarks are made in the Box 4.

### Box 4

Developing pro-poor, gender-equitable value chains requires that particular attention is paid to women's gendered opportunities and constraints, and working to devise equity measures to enable full participation at all levels of the chain. Empowering women to take part as members and as leaders in producer and marketing boards is a critical part of ensuring that their gender-based constraints are recognized and specifically addressed in value chain development.

To make value chains work for women they must be enabled to capture a larger slice of the revenues. Pro-poor, women-centred strategies that can enable this goal to be achieved include (i) encouraging women to add value to their product, for instance through improved post-harvest processing, (ii) supporting women to take on more/different functions in a value chain, such as aggregating and marketing, and (iii) ensuring that contracts are signed with women as well as with men in a household. It is also vital to pay attention to the equity, as well as to the quality, of the institutional arrangements between actors in a chain. In most cases, it will be necessary to strengthen relationships between actors in ways that explicitly target and support women. This involves paying attention to how relationships between actors at the same level (horizontal e.g. producer cooperative) and between levels (vertical e.g. producer–aggregator–trader/value chain platforms) are created, managed and supported.

All work on supporting women in value chains requires an understanding of their gender-based constraints at each level of a selected chain, and the cultural norms as well as institutional practices that may underpin these. It is upon this understanding that strategies to remove constraints and to maximize the potential of women and men can be built. Commodity-specific gender analyses are required since there are real differences in how women and men relate to, and manage, particular commodities—in this case,

It is important to involve private sector partners in the development of value chains to ensure that they are commercially viable and will stand alone after the project departs. Terms of reference should include a commitment to demonstrate gender equity. Technical assistance may be given if required, for example in the framing of joint production contracts and other innovative methods such as local warehousing to ensure female participation in, and benefit from, value chain development.

The trade-offs between value chain development and gift giving for the resilience of the target community to hunger, and for women's empowerment, need to be carefully assessed.

## Dairy goat component

In animal health terms, the dairy goat component is working very well. However, zero grazing is a major concern since it creates a large amount of additional work, particularly for women. Is a combination of stabling plus walking the animals to sources of fodder and water possible?

The dairy goat component needs strong market support due to its high opportunity costs.

Goats should be registered in the names of women as well as men in male-headed households.

## Root crop component



The root crop component has suffered a number of set-backs, mostly related to climate.

Sufficient water at the right time is proving a problem for sweetpotato cultivation, particularly in Kongwa. Water is critical at establishment and 6–8 weeks after planting (when it decides to make either storage roots or pencil roots (the latter means no food...)). Sweetpotato is not happy in temperatures over 36°C, so the right season to grow needs to be considered. One way of handling low water is to mulch the young plants to conserve water. In semi-arid conditions, a bucket based drip irrigation system can work well. The bucket kits shown here is made by Living Water (USA company) and costs about USD 10/100 m<sup>2</sup>.

Regarding the nutritional benefits of OFSP, it may be useful to ally with the Reaching Agents of Change (RAC) Project, which has a Tanzanian branch. RAC advocates increased investment in orange-fleshed sweetpotato food-based approaches to combat vitamin A deficiency (VAD) among children less than five years old and their mothers. RAC also builds institutional capacity to design and implement gender sensitive projects to ensure wide access and utilization of orange-fleshed sweetpotato in selected African countries. Its efforts contribute to the broader Sweetpotato for Profit and Health Initiative (SPHI) which aims to improve the lives of 10 million African families by 2020.

## Household food security and nutrition component

The project should develop a household food security and nutrition conceptual framework to help guide its understanding of food security and nutrition. This framework can draw upon international work around concepts of food security. It should also draw upon local understandings of food security to ensure project interventions are perceived by beneficiaries as relevant and as supportive of their own food security strategies. Nutrition should be treated as conceptually distinct.

Other recommendations include.

- Empower men to see themselves as coresponsible for household level food security, and nutrition, outcomes.
- Continue to empower women to take part in household decision-making around food allocation.

Both goals can be achieved through adopting household approaches to vision formation and action planning.

- Work with the government health services (and other health providers) to train community health workers to improve childhood nutrition practices in the project sites.



# Annexes

## Annex I. Fieldwork timetable

Date	Day	Morning	Afternoon	Overnight
23 <sup>rd</sup> Feb	Sat	Travel to Dar es Salaam	Travel to Morogoro	Morogoro
24 <sup>th</sup> Feb	Sun	Briefing Meeting (Joyce Lyimo-Macha, DeoGratius Shayo, Leah George)	Travel to Dodoma	Dodoma
25 <sup>th</sup> Feb	Mon	Masinyeti (Kongwa District) Commodity: Dairy Goat		Dodoma
26 <sup>th</sup> Feb	Tue	Ihanda (Kongwa District) Commodity: Dairy Goat (visit cassava and sweetpotato plots)		Turiani
27 <sup>th</sup> Feb	Wed	Konkeh (Mvomero) Commodity: Dairy Goat/Cassava	To Morogoro	Morogoro
28 <sup>th</sup> Feb	Thu	Sokoine University of Agriculture	14.00 Jerimia Makindara 15.00 Pamela Meena	Morogoro
1 <sup>st</sup> Mar	Fri	Sokoine University of Agriculture 10 am Joyce Lyimo-Macha	To Dar es Salaam	Dar es Salaam

## Annex 2. People met

### Tanzania-based project staff

Name	Contact	Met
Professor Lekule: Principal Investigator		No
Joyce Lyimo-Macha: Gender Team leader/nutrition specialist		24.02.2013 and 1.03.2013
Jerimia Makindara: value chain coordinator/markets	<a href="mailto:makj@suanet.ac.tz">makj@suanet.ac.tz</a> ; <a href="mailto:makindarajajeramia@hotmail.com">makindarajajeramia@hotmail.com</a>	28.02.2013
Deo Gratias Shayo: Project Coordinator	<a href="mailto:deogratiasd@gmail.com">deogratiasd@gmail.com</a>	Throughout visit
Leah George: Project Research Assistant	<a href="mailto:georgeleah98@yahoo.com">georgeleah98@yahoo.com</a> ; <a href="mailto:georgeleah86@gmail.com">georgeleah86@gmail.com</a>	Throughout visit
Pamela Meena: MSc student (nutrition)	<a href="mailto:znchimbi@yahoo.co.uk">znchimbi@yahoo.co.uk</a>	28.02.2013
Kido Mtunda: root crop component		No
John Msemu: root crop component		No
Eziack Mathew Mpelangwa (MSc economic performance of dairy goat production in Kongwa and Mvomero Districts: value chain option		No

### Project participants

#### Kongwa District: Masinyeti

Name	Subvillage	M/F	Contact
John Leheni	Chumvi chumvi	M	0789954512
Ndajila Mbaigwa	Golani	M	0786043979
Isaya Mgomba	Chumvi chumvi	M	
Nelson Madila	Chumvi chumvi	M	
Semeni Samson	Golani	M	
Asa Eliudi	Golani	M	0782339172
Andason Ndatila	Golani	M	0686946
Malema John	Chumvi chumvi	M	0687442572
Feith MMakali	Golani	F	
Janeth Cholongola	Golani	F	
Ekilia Maforo	Golani	F	
Marutina Mzena	Chumvi chumvi	F	
Julia Chizigwa	Chumvi chumvi	F	0755838296
Sinayo Taigo	Chumvi chumvi	F	0769801868
Kasilati Mwambungu (extension worker)		M	0787313861

## Kongwa District: Ihanda

Name	M/F
Enock Ndahani	M
Niko Mjema	M
Mwamini Mbijima	M
Obedi Mtizi	M
James Kusega (representing Wiliam Lusega)	M
Charles Mkwama	M
Dominic Mjenga	M
Luka Mubi	M

## Mvomero District: Konke

Name	M/F	Contact
Omary Mbilu	M	0653 829 040
Lazaro Some	M	0729 488 492
Anyambile Kajura	M	
Hamisi Sanga	M	
Majaliwa James	M	0782 348 031; 0659 207 686
Amina Mwamedu (represented her husband Lameki Bambo)	F	
Julia Kilaoneka	F	
Mwajabu Issa	F	
Mwajuma Saidi	F	
Zubeda Saidi	F	
Hadija Ally	F	

ISBN 92-9146-354-X



The International Livestock Research Institute (ILRI) works to improve food security and reduce poverty in developing countries through research for better and more sustainable use of livestock. ILRI is a member of the CGIAR Consortium, a global research partnership of 15 centres working with many partners for a food-secure future. ILRI has two main campuses in East Africa and other hubs in East, West and Southern Africa and South, Southeast and East Asia. [ilri.org](http://ilri.org)



CGIAR is a global agricultural research partnership for a food-secure future. Its science is carried out by 15 research centres that are members of the CGIAR Consortium in collaboration with hundreds of partner organizations. [cgiar.org](http://cgiar.org)