Developing a Livestock CGIAR research program – Notes from face to face and online discussions
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During the final drafting process in February and March 2016, the program and its partners organized several face and online consultations to solicit inputs to the proposal development. Face to face meetings were held in Ethiopia, Kenya, Tanzania and Uganda and by ILRI and KIT (with their staff). Some 200 people representing research, government, universities, investors, and development partners joined these, discussing and providing inputs on the program’s proposed focus, including the smallholder emphasis, the guiding trajectories, the science agenda, and key elements to deliver the Program (partnerships, gender, capacity development, uptake, etc.).

Alongside the face to face discussions, an online space was set up posing the same questions for feedback. More than sixty comments were provided. Core program partners further participated in 7 CGIAR country/site integration meetings to engage with national and other partners as part of the wider GCARD process.

This document presents feedback from the various discussions, organized around the key questions. It should be noted that the in-country discussions focused on the relevance of the proposal for that country’s situation, so much feedback was very specific. What is presented here is mainly the bullet points documented during the discussion. The notes from the online part comprise more complete sets of comments and suggestions, some short, some quite lengthy. The various contributions have not been corrected for grammar or spellings. The notes and contributions are preceded by a synthesis of insights emerging for the CRP. Full information on all the consultations and comments received is online.

The organizers express their appreciation to the several hundred face to face and online contributors who helped shape and validate the ideas that will be in the final proposal.

Insights emerging

On the smallholder focus
People in the face to face meetings strongly agreed with this. Smallholders “can be competitive” (Ethiopia), some “98% of the livestock producers are smallholders” (Tanzania) and “if capacitated can make an impact” (Tanzania). There were also qualifications and concerns: The CRP should not ONLY focus on smallholders but remember the other scales as well, including any pre-smallholder subsistence level; smallholders should not be seen as remaining ‘small’ or static, they should be helped to grow, transform or evolve, link to markets and the private sector and generally move into value addition activities (beyond keeping and producing). There was a concern on definitions, that a focus on ‘holdings’ would exclude pastoralists.
This smallholder focus attracted much attention on the online consultation. The conversation kicked off by saying that the smallholder focus “is not an option”, it is an imperative! Others elaborated on specific interventions for different production systems. As in the face to face discussions, caution was recommended not to see smallholders “as a homogeneous group” and not to miss the “influence large scale farmers/nucleus farmers have on the development of smallholders in their function as a possible growth catalyst.” Does the term ‘smallholders’ cover all categories of poor livestock-keepers? “What about the pastoralists who keep large herds … There is need to define the smallholder, and whether it is in terms of livestock holdings alone or with reference to socio-economic status of the livestock-keepers and/or other sources of income besides livestock.” Further on this: “many livestock keepers do not have any land holdings and may have what seem to be fairly large livestock holdings but – especially in the drylands – many head of livestock per family member are needed for survival of the family.” As one contributor said: “the smallholder focus is very relevant, but should include a profound analysis of them.”

Further, it is “important that our research also includes the many other actors/stakeholders that contribute to the changes we anticipate to see for the smallholder farmer” and to “add the dimension of the future of farming as a business. That means not just productivity increase, but also livelihoods and how to grow from smallholder to medium sized farms with a good future and increasing options for investment.”

One contributor argued that an “emphasis on pastoralists and medium-sized farmers will be more promising [than smallholders] in the long run, if we look at it from a demand perspective. Smallholders, by definition, engage in a variety of income-generating activities of which livestock is only one. Once they earn enough to send their children to school they usually stop keeping livestock. It’s of course great from the perspective of poverty alleviation, but not great from the perspective of sustainable livestock production. Encouraging pastoralists and paying them for environmental services in addition to creating opportunities for good income from their products will probably make more long-term sense.”

**On livestock ‘goods’ and ‘bads’**
The online platform asked whether livestock research prioritize livestock ‘goods’ (eg., livelihoods, manure, traction, nutrition) or livestock ‘bads’ (eg., emissions, obesity, public health, water use) and how the proposal could strike a correct balance.

Generally, contributors argued for ‘a balance’ but came down in favour of the ‘goods’. “A livestock research program should always bear in mind the reduction of the b ירוקs while implementing the goods”. One contributor argued to focus on ‘livestock goods’ first. “Once farming is profitable then the ‘bads’ should be addressed through creating awareness on mitigation measures since they are likely to incur costs.” A significant point made was for this livestock research for smallholders “should prioritise ‘goods’ as smallholders cannot be kept accountable for the ‘bads’… Smallholders must first of all aggregate capital before they can invest as individuals in reducing the ‘bads’. And mind you, per capita these ‘bads’ are significantly smaller as compared to large scale farming.”

**On the trajectories of change**
People seemed to grasp the differences and found the characterization between strong growth and fragile growth to be useful. They warned that the lines are blurred, that they should not be looked at independently nor framed as either/or, and that both ‘strong’ growth trajectories may start having externalities.
Some contributors to the online platform argued for caution (and also differentiated approaches). Arguing that “pastoral systems are often the most ecologically sound way of using dryland resources” it was suggested that “rather than trying to intensify pastoral systems and reduce their flexibility, ways need to be found to ensure that they can continue to operate – that key resources are not blocked off for other purposes, disrupting the wider mobile pastoral system of using dryland resources. Much more attention needs to be given to issues around resource-use rights and multiple use of resources by different producer groups that do not undermine each other. This calls for social and institutional types of research and innovation.”

In a similar vein: “Don’t take the basis of livelihood of women and their families away by focusing research on resource-intensive and often environmentally detrimental forms of processing and marketing to meet only the needs of high-income earners.“ Instead, “continue to give attention ... to pro-poor systems of processing and marketing animal-source foods so that both poor producers and poor consumers can benefit in terms of both income and nutrition.”

**On the research drivers**

Research drivers identified in rapid inclusive growth systems included functioning of markets, productivity, environmental adaptation, biophysical intensification, growing demand, decreasing labour availability, infrastructure, land conflicts, and the interface between research on standards, regulations, markets, food safety, and production with research on issues like pollution, the environment, culture, values, social structure. From the online platform, “a key element should be that the focus should not be put solely on the production side but on the whole value chain. Farmers can only benefit from a livestock program when they have access to markets to sell their outputs and/or processors.” And: a) Profitable and equitable integration of smallholders into milk, meat and by-products value chains. b) Production of safe and nutritious products. c) Opportunities for small holders to achieve a larger proportion of value-added in the above value chains. d) Reduction of environmental externalities and efficient use of wastes

Research drivers in fragile growth systems included climate change mitigation, emerging and re-emerging diseases, climatic shocks, insurance, property rights, adaptive capacities, risk, early warning systems, service delivery, commercially-viable resilience strategies, as well as unpredictability – biophysical and socio-economic. From the online platform: a) Enhancing livelihoods. b) Conserving natural resources/ecosystem services. c) Diversification of livelihoods, and:

- In drylands, systems are often quite resilient, based on a social systems as well as an economic and environmental limitations. mobility, stock exchanges, risk reduction, may arrangements are in place but very rarely supported by government, research organizations and development agencies. It seems to be very difficult to believe by high tech oriented people that soft innovations such as institutional development and socially based production systems are more important in many cases than technologies such as vaccination etc. Without the former, the latter will never reach its optimum. This means the land issue comes back, and also the need for jobs: though land productivity is huge in pastoral systems, labour productivity is not.

- Livestock systems that depend on seasonal movements are more and more in difficulties. Sahelian cattle searching for crop residues and pastures in valleys in more semi humid areas in coastal countries are less and less welcome. Traditional paths and pastures are taken under cultivation;
more annual, perennial and lowlands crops are cultivated during the dry season and threatened by roaming and underfed cattle. Protected forests and even national game parks are turned into (illicit) cattle parks. Very few propositions on how to cope with the “problem” and how to turn it into opportunities have been formulated so far. Fodder cultivation, hay making, cultivated fields, enclosure with legume shrubs or Jatropha, Corridors are destroyed before their “participatory” marking has been completed. Policies are erratic, oscillating between wild repression (shooting at herds) and wild tolerance + briberies. Peaceful coexistence of former complementary natural resource users is seriously at risk.

- Look at systems rather than just livestock. Beyond livestock, to understand how the different farming system (and beyond that, innovation system) operate, and what change is needed.

**On the integrated approach to deliver changes**

Points arising included: Involving beneficiaries in designing and doing the research, keeping a focus on what’s needed not what donors want to pay for, critically assessing previous efforts, connecting well with extension and policy, differentiating approaches for different systems, e.g. transforming pastoralist systems through value system and participatory approaches, partnering with others, partnering with smallholder farmers, properly unpack notions around youth, and giving proper attention to participatory action research and learning on the ground. From the online platform, it was suggested that a smallholder focus should mean “research for them and with them”.

From the online platform: “I would like to plead for a real participatory approach (Participatory Innovation Development or PTD), working together with all relevant stakeholders but taking care the voice and interest of the smallholder livestock keepers does not get lost.”

**On capacity development, gender, and communications**

Participants strongly argued for greater emphasis and support for capacity development, but that its effectiveness needs to be measured. From online: “It is important that capacity development is not seen as a one-off intervention but is multi-dimensional and multi actor process that goes well beyond transfer of skills and knowledge at individual level (training). Critical institutional capacities required to deliver impact at scale would include facilitation for collaboration, navigating complexity, reflection and learning, and engaging in strategic and policy processes-by bringing in organisations with an intermediary role to help facilitate capacity building.”

On gender, capacity issues – to undertake gender research – were highlighted as well as needing to integrate it from the outset of planning. From online: To ensure gender equity, “take into consideration the different behavioral attributes of men and women in varying contexts. This may improve understanding of complexities in gender inequality-beyond just the needs, interests, power and resource distribution that commonly defines gender equity and equality interventions.”

The proposal’s focus on “‘strong growth’ through sustainable intensification of livestock-based systems” sends warning signs: there are some livestock activities that generally remain the purview of women and key sources of livelihoods and food security. Increased commercialization of these activities can lead, as we have learned from other designed shifts in value chains, to displacing women.”

Communications should be part of the theory of change and impact pathways, it should be multi-dimensional, community focused and employ diverse local information delivery systems, media, and
ICTs. Connecting again extension was seen to be important as well as ‘mass campaigns’ and, in more targeted ways, influencing the right persons – government, policy makers, private sector, and other players.

On roles for the private and public sectors
A Tanzanian participant suggested that the “private sector should provide inputs and markets, while the public sector provides knowledge and information.” In the ILRI conversation, a similar distinction was drawn: For the private sector, partnership in research and downstream delivery and input service supply (particularly through the use of innovative technologies in fragile systems); for the public sector, regulation, market infrastructure. “The role of the private sector is to ensure there is a strong market, regulated by the public sector.”

It was also argued that these roles change in the different growth trajectories. In fragile growth systems, public sector takes on greater responsibilities. In more market-orientated systems, the role of the private sector grows. This is not to say that there is no place for the private sector in fragile systems or the public sector in strong growth scenarios. Further on this from the online platform: Public sector role is to “support and allow the development of technologies for small scale production (high potential areas) and flexible technologies for the drylands. The systems differ. That means also for public partners: land rights, job creation for those who cannot be sustained by the system. Private: producing and distributing tech that can be used in small scale systems, risk averse.”

In terms of research collaboration with the private and public sectors, an online contributor said: “The private sector has a role in both testing our research products and scaling. Inviting collaborations with the private sector is one way to engage. The public sector is also a key partner in cultivating sustainability of adopted technologies. Understanding of the research process by both private and public sectors is an incentive to their technology uptake.”

“Communication is of vital importance regarding collaboration between research and private companies. Private companies have to express their needs as well as their willingness to in some cases fund and more importantly implement developed technologies. Research has to bear in mind the practical adaption of their developments. To reduce any kind of transaction costs, research and private companies should stress an exchange as early as possible at the beginning of a new project/program.”
Notes from the face to face discussions

Importance of livestock
- Livestock is a strategic pathway for wealth creation (Uganda)
- There is an increasing demand of livestock and livestock product demand especially ‘white meat’ (Uganda)
- There are plenty of new technologies, innovations and information that enhance livestock development (Uganda)
- There is more and more involvement of women and youth in livestock (Uganda)
- Livestock has a huge potential for employment (Uganda)
- There is an emerging leather industry (hides and skins) (Uganda)

But:
- Limited market and marketing infrastructure (Uganda)
- Limitations of value addition in livestock products (Uganda)
- A lack of functional disease control strategies for disease mitigation (Uganda)
- High food quality and standards challenges (Uganda)
- High effects of HIV/AIDS on enhanced productivity (Uganda)

How could the assessment of livestock related opportunities to address development challenges be strengthened?
- Strengthening could be done through: Multi-stakeholder involvement and giving priority to action research (research should come from the beneficiaries, not donor driven agenda). (Tanzania)
- Deploy multi-stakeholder process effectively (Tanzania)
- Research has to be coupled with adoption studies (Tanzania)

Does the focus on smallholders make sense?
- Yes the focus on smallholder livestock makes sense (Uganda)
- Smallholders can still be competitive (Ethiopia)
- Focus on smallholder more likely to generate employment than focus on large holders (Ethiopia)
- They are the majority and if capacitated can make an impact (Tanzania)
- Yes if they get: Finance, education and ready market for their products. (Tanzania)
- Yes. About 98% of the livestock producers are smallholders. (Tanzania)

Commentary on smallholder focus
- But also focus on medium and large scale (Tanzania)
- But they should be facilitated/educated/sensitized to change into medium/large scale. (Tanzania)
- Medium and large scale commercial production (dairy ranches, cattle fattening, poultry etc.) should also be supported by creating favorable policy and business environment. (Tanzania)
- But: How does the smallholder farmer influence the research agenda and how best can the results from the research agenda trickle back to the smallholder farmer in the absence of strong ‘farmer-research-extension linkage? (Tanzania)
• The crucial thing is how to organize them into collective action to access business development services (Tanzania)
• There is no clear strategy on how farmers will be helped to ensure the transition from subsistence to commercial farming. (Uganda)
• Value addition and processing of livestock products (Uganda)
• The lack of strategy for value addition amongst smallholder farmers should be explored (Uganda)
• Livestock as pathway for enhancing human nutrition is not well articulated (Uganda)
• A strategy for technology transfer to livestock value chain actors not clear? (Uganda)
• How to strengthen policy and regulatory issues (e.g. land, seed, commercial feeds policy) (Uganda)
• Gender issues are not coming out well right from the beginning (Uganda)
• Market did not come out clearly. What does the farmers do with the increased quantity of production? Are the markets big and responsive enough (Ethiopia)
• Include medium and large scale farmers especially for dairy? (Ethiopia)
• Fear that pastoralists could be excluded (Ethiopia)
• Look at smallholders from a consumer perspective (Ethiopia)
• Market aspect crucial (Ethiopia)
• Environmental issues with smallholders – preservation of products (Ethiopia)
• Definition of smallholders? Should consider many aspects, consider context - livelihoods (Ethiopia)
• The role of cooperatives and micro finance is crucial (Ethiopia)
• Link smallholders with private sector, large scale farmers? (Ethiopia)
• Smallholders versus large scale farmers eg, dairy processing needs to be considered (Ethiopia)
• Income generating activities for women (Ethiopia)
• Graduate smallholders to large scale system should be designed over the years (Ethiopia)
• How to make smallholder market oriented should be areas of research (Ethiopia)
• The case for smallholder is there (all the pieces are there) but the argumentation did not come out strongly. (KIT)
• The human population growth leading to decreasing farm size connection needs to be addressed because: Not all smallholding is desirable or economically or environmentally sustainable- and may lead to poverty traps. But also that smallholders will not disappear. Is it clear that we’re not smallholder fundamentalists (ILRI)
• Smallholder farmers are producers but they are also consumers. (ILRI)
• For small scale holders- I have a feeling that many people are moving away from agriculture (livestock included) as farming is increasingly become non-rumenerative profession we are focusing only on the technology part and other elements are beyond our reach (ILRI online)
• Do we focus only on smallholders or are we open to medium scale or to where the risks are high? For example in Vietnam, the size of 30-100 pigs are more and more common. For profitable farming size is critical and probably we may have to include medium scale operations (ILRI online)
Commentary on the organization of research for development priorities around trajectories of change, especially what’s missing

- Missing or weak: Property rights – especially land tenure for both strong growth and fragile growth trajectories (Uganda)
- Missing or weak: Early warning systems for coping with shocks (climatic and biotic) (Uganda)
- Missing or weak: ICT applications for technology delivery (Uganda)
- Missing or weak: Trans-boundary diseases (Uganda)
- Missing or weak: Traceability systems (Uganda)
- Strong growth trajectories may start having externalities (Ethiopia)
- Missing or weak: Urban poor (poor urban livestock systems) (Ethiopia)
- Trajectories couldn’t be looked out independently (Ethiopia)
- Fragile growth trajectory (for enhancing resilience) should also be considered for Uganda (besides the intensification – value chain). Justification is that pastoralism system in the cattle corridor is prominent too. (Uganda)
- All three trajectories are important - smallholders should not be looked at in isolation. The scenarios should not be framed as either/or as all are relevant. (KIT)
- The focus seems to be on markets more than livelihoods: producers for markets rather than for themselves. (KIT)
- In terms of future perspective, the fragile growth systems, given demand and ways of meeting it, could become high growth and high potential areas leading to new externalities. Needs to allow for this structural change. (ILRI)
- It is very clear that these transformations, from subsistence to market-orientated, from fragile to resilient, will affect young people, men and women, smallholders and larger-scale farmers very differently. We need to develop an overall institutional framework for sustainable intensification (integrated research and policy agenda), which takes into account the different growth scenarios (strong, high and fragile). And also ask the question how sustainable are intensifying systems? (ILRI)

What are the top issues driving research on sustainable intensification of livestock-based systems?

- Access to both input and output markets (Uganda)
- Proper functioning of the input and output marketing systems (Uganda)
- Overlap strong growth + fragile growth trajectories (ex. Pastoralist system) (Ethiopia)
- Role of livestock in x-systems? (Ethiopia)
- Productivity is key (Ethiopia)
- Adaptation environmental (Ethiopia)
- Markets (temporal fluctuations) (Ethiopia)
- Technologies (example Dairy) – Value chain development needs to have long term perspective (Ethiopia)
- Environmental resources (Ethiopia)
- Biophysical intensification (surface + underground) (Ethiopia)
- Growing demand (Tanzania)
- Decreasing labour force in agriculture and livestock systems in some ecological zones (Tanzania)
- Seasonality of feed resources (Tanzania)
- Infrastructure for products collection, processing and trading (Tanzania)
- Animal health management and disease control (Tanzania)
- Inputs and services provision. (Tanzania)
- Issues come from the stakeholders that affect the majority such as climate issues, feed, land conflict between livestock keepers and farmers (Tanzania)
- Thinking of intensification takes research into areas of standards, regulations, markets, food safety, production, etc., while sustainability looks at research areas related to issues like pollution, the environment, culture, values, social structure etc. (ILRI)
- There is an assumption that intensification is going to happen, we have to look at the linkages. But what exactly are we talking about when we refer to intensification, is it market-orientation? Will there be intensification in fragile systems? (ILRI)

What are the top issues driving research on enhanced resilience for livestock-based livelihoods?
- Building capacity of smallholder farmers/strengthen towards mitigation of climate change (Tanzania)
- Emerging and re-emerging diseases, including zoonoses (Uganda)
- Environmental concerns – especially climatic shocks (Uganda)
- Policies around financing and insurance systems, property rights (Uganda)
- Improve adaptive capacity? (Ethiopia)
- Need institutional arrangement (Ethiopia)
- Improve proactive risk models and early warning systems (Ethiopia)
- Markets, increase off – take (Ethiopia)
- Linking different production systems (Ethiopia)
- Animal health service delivery (Ethiopia)
- Markets (temporal fluctuations) (Ethiopia)
- Market problems (Camels + small ruminants) (Ethiopia)
- Commercially viable resilience strategies (Ethiopia)
- Unpredictability, bio–physical, socio-economic (Ethiopia)

Comments on the portfolio of integrative research – what the Program proposes
- More focus: social economics of the interventions (cost-benefit) (Uganda)
- More focus: building in research on the impact of human health and nutrition (Uganda)
- More focus: Market information/intelligence (Uganda)
- More focus: How the whole effort is linked to market (Ethiopia)
- More focus: Animal welfare and drudgery technologies that are low cost and cost efficient (Uganda)
- More focus: Forage breeding and promotion local forage species (Uganda)
- More focus: Feed safety issues (Uganda)
- More focus: Feeds research on emerging feeds e.g. vermiculture - insects (as alternative sources of protein) (Uganda)
- More focus on Management - both husbandry management and enterprise management (Uganda)
• More focus: Market access and value addition (Uganda)
• More focus: research on environmental degradation and impact shown to the beneficiaries (Tanzania)
• More focus: Public health and food and feed safety (safe livestock products) (Uganda)
• Gender is not coming out well right on higher issues (Uganda)
• Issues of animal welfare and management (housing, transportation) are not addressed anywhere in the proposal. (Uganda)
• Small scale mechanization (such as low cost mechanization equipment for chopping feeds) is missing especially in the cattle value chains. Farmers are exposed to risks and drudgery in the livestock value chain. (Uganda)
• Forage breeding of existing varieties (conservation aspects) should also be a focus rather than introducing new varieties (Uganda)
• Having a specific environment flagship is an excellent addition to the portfolio. That said, the issue of the environmental impact and risks related to livestock production - for example, climate change contributions, ecological footprints etc. - are not brought out well. Much more weight needs to be given to the environmental impact and what the CRP will do to explore, analyze and address this. It is a growing concern internationally and response to that discourse comes out too late in the story (presentation narrative). (KIT)
• How can the CRP link to other forms of social protection? Especially in the Livelihoods and Environment flagships, this may be relevant. (KIT)

Commentary on the approach to deliver stepwise, transformative changes leading to sustainable, resilient livestock systems – mainly on what’s missing or needs more attention

• Use large commercial farms pastoralists and agro-pastoralists with large herds to produce cross breeds on contract basis e.g. using sexed semen. (Tanzania)
• Involve smallholders/beneficiaries in the development of the research agenda as well as during the research (Tanzania)
• Researchers in Tanzania are doing donor driven research for funds not to meet demand from the local livestock sector. (Tanzania)
• Need more Critical analysis of previous efforts and strategies or inclusiveness of previous and targeted interventions and ignoring local/indigenous knowledge and experiences (Tanzania)
• The link between research and extension portfolio was not very well articulated is the proposal (Uganda)
• More focus: Policy, legal and regulatory issues (Uganda)
• More focus: Capacity on finances infrastructure, human and ICT (Uganda)
• More focus: Research that guide policy (Uganda)
• Transformation is beyond incremental changes (Ethiopia)
• Address the issues for smallholder farmers holistically (Ethiopia).
• More focus: Indigenous technology knowledge generation and use (Uganda)
• Political vs research agenda: does the political will drive on research guided by professional synthesis or research priorities based on data? How do the two merge and harmonize based on evidence-based policy analysis? (Tanzania)
• Consider R4D on livestock-crop integration both as enterprises and delivery of integrated extension service provision. (Tanzania)
- Need to modernize/transform pastoralist’s production system through value system and participatory approach, business development that suits the pastoral production system. (Tanzania)
- Weakness in research delivery is that we stress on research/extension linkage and less on research/production linkage. (Tanzania)
- The fragile growth (resilience) focus is convincing, however it is messy and hard to measure. It is important to collaborate with other organizations working on this and link to these other programs. (KIT)
- Smallholders are an important focus, but there is a need to move beyond rhetoric, to the nature of partnerships with smallholder farmers and creating meaningful partnerships. (KIT)
- The partners mentioned in the presentation are primarily the ‘usual suspects’. For new thinking, more social science and local partners would be beneficial. (KIT)
- The category of ‘youth’ needs to be broken down to expose its heterogeneity – which youth? We need to move away from assumptions and perhaps use a ‘life cycle approach’ and intersectionality, which would support the CRP in ‘unpacking’ the youth category. Link the rationale of outreach to youth to the rural-urban shift. (KIT)
- There is little or no mention of participatory action research (PAR). Instead the learning approach focusses on a higher level, CGIAR-wide learning rather than on-the-ground, local learning and how the CRP will engage with that. For example, when aiming for gender transformative change, PAR helps to take that kind of change forward and this is missed in the presentation. More on methodologies and how they are used locally and in communities would be welcome.
- Most of the integrative research appears to be in the LLAFS flagship, but this perspective is needed across the whole CRP e.g. systems research. Leaving it all to one flagship is likely insufficient. (KIT)
- The CRP Livestock is covering a lot of ground, particularly the social science side. Choices should be made to narrow the focus down and strongly argue for comparative advantage. Go for depth rather than breadth. (KIT)
- There could be differential understanding and perceptions about transformative changes, we need to have this grounded in what it looks like in real life context, before we can go say that we know how to deliver transformative changes. (ILRI online)
- Ingredients for transformative change: technology, access/means to technology, policy support, enabling systems and institutions (ILRI online)

**How best can we integrate capacity development, gender, and communications?**

- Capacity
  - This area needs supported, well trained and equipped extension staff, which is the role of government through local government authorities which unfortunately have not showed interest to develop or support. (Tanzania)
  - Human + material – the emphasis is vital (research facilities) (Ethiopia)
  - The emphasis needs to be increased (Ethiopia)
  - Need to measure the effectiveness of capacity development efforts (Ethiopia)
  - Need for community controlled processes linking capacity development and communication agenda (Ethiopia)
• Gender
  o Clarity of the gender component (Ethiopia)
  o Integrating the gender component at the outset of planning Capacity to undertake gender research (Ethiopia)
  o Involve women in all activities along the value chain (Tanzania)
  o Capacity - human + material (Ethiopia)

• Communications
  o Needs to be part and parcel of the TOC/IP (Ethiopia)
  o Using the information generated (Ethiopia)
  o Communication shall be multi-dimensional (Ethiopia)
  o Need for community controlled processes linking capacity development and communication agenda (Ethiopia)
  o Include use of local information delivery systems e.g. role plays (skits), the local media (newspapers, local television shows, and radio programs) and use of ICT technology (Uganda).
    o This can be done by use of groups, focus groups and radio programs (Tanzania)
  o Use of extension so that the finding can reach out to large numbers of stakeholders. (Tanzania)
  o Mass campaigns to communicate and change mindsets/perceptions. (Tanzania)
  o Research for development on ICT platform to strengthen information sharing (Tanzania)
  o To achieve impact you need to influence the right persons – government, policy makers, private sector, and other players (ILRI)

What are key roles for private sector and public sector?
The role of the private sector should be to provide inputs and markets, while the public sector provides knowledge and information. (Tanzania)

Need to make a clear distinction between the different growth scenarios, for instance, in fragile scenarios, there will tend to be a greater burden placed on the shoulders of the public sector. Depending on the production system, as one moves into a more market-orientated systems, the role of private sector growths. But can private sector play a role in replacing the services provided by the public sector? Do they provide more efficient / better services? This is not to say that there is no place for the private sector in fragile systems or the public sector in strong growth scenarios. The role of the private sector is to ensure there is a strong market, regulated by the public sector. Moreover, this approach seems to assume there are no connections between strong and fragile growth scenarios, in fact there are increasing connected, and these interconnections need to be reflected in our research and policy development. (ILRI)

Concrete roles for the private and public sectors: Private sector: partnership in research and downstream delivery and input service supply (particularly through the use of innovative technologies in fragile systems). Public sector: regulation, market infrastructure. (ILRI)

For private sector:
• Deliver improved genetics to farmers e.g. semen, technologies services (ILRI)
• Test and feedback, recommend to farmers (ILRI)
• Invest in research and technology (chicken example) (ILRI)
• Capacity building for adoption of technology; encourage/engage youth (ILRI)
• Gene discovery traits interesting to them (heat tolerance) (ILRI)
• Lead livestock development drivers (Tanzania)
• Policy and legal framework implementation (Tanzania)
• Shared settling and implement livestock development agenda (Tanzania)
• Formal land and development (Tanzania)
• Invest (Tanzania)
• Change to commercial from traditional (Tanzania)
• Enquire/demand research findings (Tanzania)
• Provide quality products (Tanzania)
• Production, processing, transportation etc. (Tanzania)
• Under guidance from the public sector, they may assist in extension (Tanzania)

But challenges include:
• Not stable partnership (ILRI)
• Definition of private sector, farmers also private sector (ILRI)
• Engage private sector in a fair way, not creating competition (ILRI)

Public sector
• Enabling environment: policy (ILRI)
• Engage policies at regional level (ILRI)
• Facilitate, create rewarding environment (ILRI)
• Food safety, health, environmental issues. (ILRI)
• Conducive policy (Tanzania)
• Regulatory role (Tanzania)
• Set the development agenda (Tanzania)
• Land and land resources ownership (Tanzania)
• Facilitate with information and technology use (Tanzania)
• Provide extension services (Tanzania)
• Facilitate research for development (Tanzania)
• Demonstrate and invest other livestock sub sectors like beef (Tanzania)
• Provide animal health and veterinary services (Tanzania)
• Leverage importance of livestock campaigns on changing and adopting technologies and habits in consuming milk products (Tanzania)
• Fund research which will solve problems in their enterprises (Tanzania)
Contributions to the online platform

The focus of the proposed program

1. Does the focus of the program on smallholders make sense? Will we miss anything crucial in this focus?

1.1 The program is well focused and makes sense and will not miss out anything crucial. The balance can be struck by looking at ways to ameliorate enteric methane emission from animals in order to improve their productivity thereby enhancing livelihood of the people especially in rural areas.

1.2 The focus on smallholders in livestock related programs is not an option. It is rather a priority because livestock activities are majorly practiced by this target group in almost all developing economies. The focus on smallholder communities is even most relevant when we consider the sub-Saharan Africa. Research on livestock agri-food system is unthinkable without a focus on smallholder farmers. They are part of the system where the impact of the scientific research finally reveals itself in the form of increased household income, improved nutrition and health conditions. The issue is then to identify and decide on the cutting-edge research themes that should be undertaken with an immediate socioeconomic impacts on that target group, preferably, and leading to long-term, sustained and increased outreach to millions of smallholder families along the trajectory of growth.

1.3 Yes the focus on smallholder matters. But it’s not well articulated in the statement. Apart from mentioning that SHFs are important. I think there is need to put a more grounded basis for mainstreaming SHFs in the agri-food system.

1.4 I think the smallholder focus does make sense. We have evidence of uptake of piecemeal innovations (grazing, water, vaccination of chicken and small stock, the usual suspects as far as smallholders are concerned). We also have evidence for quite considerable improvement in productivity, of between 50-100% depending on type of livestock and management. What is needed is the appropriate technologies, and surprisingly that has not been coming forth very much. There is still huge potential in many areas. This includes providing quality inputs and providing a reliable and decentralised milk collection sector. All this is in the higher potential areas. Integrated farming (crop-livestock) is a serious option there. For oxen, the same applies and zero razing is an option but often when the farms get smaller, zero grazing even is impossible. The farms are too dense to have enough grazing left. Creating jobs for farmers and their families to earn enough to invest is necessary: they might be able to afford mechanised forms of tillage (but will lack the fertility-function of livestock). I think you should make clear what type of livestock production you are talking about: this is all relevant for high potential areas. What about drylands? Usually for meat production? Same applies in a sense: there is lots of potential to improve gradually and without risk the herd productivity. But drought risk is a concern. Also, the land issue is important there in a different way as in the wet areas: land is being taken by various uses (urban, tourism, ranches, wheat etc.). And the market is not always close: how to process meat for the urban market?

1.5 I think you should distinguish between high potential areas and drylands. In the first there is ample perspective on improved productivity for smallholders. Incremental change will gradually increase that by 50-100% as we have evidence of this. Risk reduction, small changes to test technologies, for chicken and small stock mostly I think as this is smallholder farming. Fertility in integrated systems will allow
reduced input levels of fertiliser, spending should be on animals health, vaccination, feeds. For larger animals: usually milk and oxen. The latter may be reduced due to smaller and smaller lands. Mechanisation of a sort is needed then: less manure and jobs are needed to earn the money. And business cases for renting out tractors (2wheel), but only after the low hanging fruit of smaller tech is done. The milk: great potential yet. Very little is done to promote SS milk production; good inputs and a reliable market will allow huge gains in think. This has only started even in Kenya. The drylands are different but the same: meat usually, and small change is preferred: water, feeds, but mostly better crossbreeds (never the high productivity stuff) and animals health are crucial. When the market is allowed its way, this will develop too. The thing is: land is being taken away: urban. Tourism, ranches, agriculture such as wheat.

1.6 The focus of this program makes sense; given the majority of farmers in developing countries are smallholders. One issue that is often not considered is that smallholders are seen as a homogeneous group though they are quite heterogeneous regarding their specific situation (differences in countries, regions, the institutional framework, production systems ...). However, the often crucial influence large scale farmers/nucleus farmers have on the development of smallholders in their function as a possible growth catalyst should be considered too.

1.7 The focus on smallholders make sense considering that in our region, most of livestock farming is practiced under smallholder production system which contributes significantly in national GDPs.

1.8 The focus on smallholder sounds right. The smallholder farmer is however at the far end of the research and development continuum. It is therefore important that our research also includes the many other actors/stakeholders that contribute to the changes we anticipate to see for the smallholder farmer. This is especially in understanding how these actors advance the use of our research.

1.9 The smallholder livestock make a sens but it will depend on type of animals, potentiality of each region. The good way is to analyse country concern by country and promote the kind of each area depending on his potentiality.

1.10 The smallholders focus makes a lot of sense for reasons already indicated. However it would be advisable to add the dimension of the future of farming as a business. That means not just productivity increase, but also livelihoods and how to grow from smallholder to medium sized farms with a good future and increasing options for investment.

1.11 The idea of increasing in-country production to satisfy consumer needs makes sense, but not so sure about the focus on smallholders. Emphasis on pastoralists and medium-sized farmers will be more promising in the long run, if we look at it from a demand perspective. Smallholders, by definition, engage in a variety of income-generating activities of which livestock is only one. Once they earn enough to send their children to school they usually stop keeping livestock. Its of course great from the perspective of poverty alleviation, but not great from the perspective of sustainable livestock production. Encouraging pastoralists and paying them for environmental services in addition to creating opportunities for good income from their products will probably make more long-term sense.

1.12 Small Holders are traditional practices and they are the basic from where we all started, The growth of livestock was as a result of the reserved breeds developed from small holders. It is not a waste of time to think back and look on what worked, What can we do, And how to scale up the
productions of small holder and make their livelihood better. Sure this group needs encouragement and should not be abandoned. The small holder should be give the newly research high breed, and be supported with funding to increase their capacity and output.

1.13 The smallholder focus is very relevant, but should mean “research for them and with them”. Knowing the barriers for adoption of research technologies by smallholder is key if one wants to make impact. Country policies, strategies, priorities in agriculture should be analyzed and well known in order to guide country choice. How and when can a research program have made impact? Easier with development programs, but hard in research program....there is need to establish a M&E tool to capture this....

1.14 The smallholder focus is very relevant, but should include a profound analysis of them. Smallholders are too divers to be put into one category that can be served by ILRI research. This has been the pitfall of many good intentions. Yes, smallholders have in common that they raise limited numbers of livestock, but there are more dominant production factors that differentiate them, making it impossible to refer to them as a uniform production unit. Though we know the problem, most evidence of this has been provided by anthropological research and only limited research into this phenomenon has been done by livestock-related sciences. See also our (KIT) working paper ‘Enhancing rural labour productivity: how to reach the rural poor’. In this paper we summarize the results of a systematic review of literature on evidence of impact of agricultural research on the rural poor. Key conclusion is: the very poor depend on wage labour for income, and for food security on marginal crop- and livestock production. Conventional agricultural research do not serve the interests of the latter. A pro-poor agenda would consider the nutritional return to labour, not raising farm productivity through intensification. So: unpacking the smallholder concept is of ultimate importance if we want to make any impact in the future.

1.15 Regarding the focus on “smallholders”, it depends how you define them. Many livestock keepers do not have any land holdings and may have what seem to be fairly large livestock holdings but – especially in the drylands – many head of livestock per family member are needed for survival of the family. Pastoral systems are often the most ecologically sound way of using dryland resources. Rather than trying to intensify pastoral systems and reduce their flexibility, ways need to be found to ensuring that they can continue to operate – that key resources are not blocked off for other purposes, disrupting the wider mobile pastoral system of using dryland resources. Much more attention needs to be given to issues around resource-use rights and multiple use of resources by different producer groups that do not undermine each other. This calls for social and institutional types of research and innovation.

1.16 Another area in which ILRI has been giving attention in the past and needs to continue to give attention is that of pro-poor systems of processing and marketing animal-source foods so that both poor producers and poor consumers can benefit in terms of both income and nutrition. In the informal markets for animal-source foods, women play a key role, and this role needs to be strengthened or at least maintained. Don’t take the basis of livelihood of women and their families away by focusing research on resource-intensive and often environmentally detrimental forms of processing and marketing to meet only the needs of high-income earners. I agree that your third scenario offers the greatest potential for a research program to improve the quality of low-income diets, reduce import costs, reduce poverty and make more efficient use of natural resources.
1.17 Do smallholders cover all categories of poor livestock-keepers? What about the pastoralists who keep large herds but are disenfranchised and need attention. Therefore there is need to define the smallholder, and whether it is in terms of livestock holdings alone or with reference to socio-economic status of the livestock-keepers and/or other sources of income besides livestock.

1.18 Yes. With the continuous subdivision of land to smaller and smaller units thus creating a myriad of small scale farmers it makes sense to focus on such farmers. Encourage and promote farming as a business. Subsistence farming will not yield the desired results.

1.19 Does the focus of the program on smallholders make sense? Will we miss anything crucial in this focus? The focus on small holders makes perfect sense. However, as you state, it is likely that investments in larger-scale feed lots will occur in parallel. The competitiveness of these small holder systems vis a vis the feed lot approach will need to be assured.

2. In developing countries, should livestock research prioritize livestock ‘goods’ (eg., livelihoods, manure, traction, nutrition) or livestock ‘bads’ (eg., emissions, obesity, public health, water use)? How do we strike a correct balance?

2.1 Livestock research in developing countries should keep the balance between understanding both the ‘goods’ and ‘bads’ of the sector and should lead to the reduction of the ‘bad’ effects of the sector by bring in innovation so that the environment and human health are not compromised. Research on the ‘good’ things should focus on improving livestock production systems and productivity to keep the production-consumption function in balance, with the likely expectation that both the human population and the demand for livestock source foods increase. The research on the ‘bads’ could help inform consumers on the appropriate use of animal source foods without jeopardizing human health and the use of technologies to reduce the negative impacts. For the developing countries it is unlikely that the use of livestock for food and non-food purposes would be ignored for years to come.

2.2 I think the goods still outweigh the bads, but development of those goods with an eye on the bads, would be good. Eg better feeds improves animals growth and quality but can reduce methane production as well. Different types of animals do that too. Kangeroo, i’m not kidding, has almost no methane production. But serious: this can be managed at the same time.

2.3 A research prioritization is neither so easily achievable nor is it desirable from a sustainable development point of view. A livestock research program should always bear in mind the reduction of the “bads” while implementing the “goods”.

2.4 The smallholder livestock production has many constraints: poor livestock breeds, poor animal feeds, pests and diseases, small land holdings, poor infrastructure etc. Research should therefore focus on both “goods” and “bads” to ensure maximum productivity of the sector while also taking into consideration on public health and environmental aspects.

2.5 The bad or good issues of research prioritize on livestock are important to prevent any unbalanced question. A good research must prevent and avoid the trade-off.

2.6 Would be wise to look both at goods and bads. You always have to work with increasing benefits (goods) and reducing costs (bads). Including environmental costs etc.
2.7 I am of the opinion that livestock research should prioritise ‘goods’ as smallholders cannot be kept accountable for the ‘bads’. The latter can be addressed through payment for community and nature conservation services. Smallholders must first of all aggregate capital before they can invest as individuals in reducing the ‘bads’. And mind you, per capita these ‘bads’ are significantly smaller as compared to large scale farming.

2.8 Both the “goods” and “bads” of livestock production should be addressed with the goal of increasing the former and decreasing the latter in each production unit.

2.9 What is the goal of the program? To alleviate smallholders out of poverty by increasing productivity and incomes by moving towards more industrial systems, and therefore ‘bads’ or is it to make smallholder production systems more viable and sustainable? We need research that will take cognizance of the variability and ways to manage it in a realistic manner.

2.10 My view is that you focus on ‘livestock goods’ first. Once farming is profitable then the ‘bads’ should addressed through creating awareness on mitigation measures since they are likely to incur costs.

2.11 This CRP needs to look at both. The livestock goods should be a major focus of the Livestock CRP; in conjunction with other AFS CRPs where it makes sense (e.g., dual purpose maize). However, for livestock bads, there should be significant involvement of/collaboration with CCAFS (emissions), A4NH (obesity and public health) and WLE on water use/quality. Of course, other selected international organizations and ARIs should also be involved.

3. What are the top issues that should drive research on the sustainable intensification of livestock-based systems?

3.1 The top issues that should drive research on the sustainable intensification of livestock base system are: increasing demand for livestock products and the production response.

3.2 Next to the introduction of new technologies and good agricultural practices, a key element should be that the focus should not be put solely on the production side but on the whole value chain. Farmers can only benefit from a livestock program when they have access to markets to sell their outputs and/or processors. Supply should reach the demand. This is one necessary condition to improve the nutritional situation of a society and to improve the situation of farmers.

3.3 a) Profitable and equitable integration of smallholders into milk, meat and by-products value chains. b) Production of safe and nutritious products. c) Opportunities for small holders to achieve a larger proportion of value-added in the above value chains. d) Reduction of environmental externalities and efficient use of wastes
4. What are the top issues that should drive research on enhanced resilience for livestock-based livelihoods?

4.1 The top issues that should drive research on enhanced resilience for livestock base livelihood are the role of human agencies.

4.2 in drylands, systems are often quite resilient, based on a social systems as well as an economic and environmental limitations. mobility, stock exchanges, risk reduction, may arrangements are in place but very rarely supported by government, research orgs and development agencies. it seems to be very difficult to believe by high tech oriented people that soft innovations such as institutional development and socially based production systems are more important in many cases than technologies such as vaccination etc. Without the former, the latter will never reach its optimum. This means the land issue comes back, and also the need for jobs: though land productivity is huge in pastoral systems, labour prod is not, and population growth will hardly ever be contained within those systems: there WILL be an outflow. My studies in Kajoado kenya show that there is a max to the number of PASTORAL people in many districts, related to the land and growth curves of livestock and people. A longer term study will reveal the long term maxima of the system: that should be guiding in selecting the technologies.

4.3 Diversification should be considered as a measure to reduce risk. In addition, a focus should be put on the development of micro-insurance schemes.

4.4 Livestock systems that depend on seasonal move are more and more in difficulties. Sahelian cattle searching for crop residues and pastures in valleys in more semi humid areas in coastal countries are less and less welcome. Even “domestic” herdkeepers encounter a lot of difficulties and troubles. Traditional paths and pastures are taken under cultivation; more annual, perennial and lowlands crops are cultivated during the dry season and threatened by roaming and underfed cattle. Protected forests and even national game parks are turned into (illicit) cattle parks. Very few propositions on how to cope with the “problem” and how to turn it into opportunities have been formulated so far. Fodder cultivation, hay making, cultivated fields enclosure with legume shrubs or Jatropha, Corridors are destroyed before their “participatory” marking has been completed. Policies are erratic, oscillating between wild repression (shooting at herds) and wild tolerance + briberies. Peaceful coexistence of former complementary natural resource users is seriously at risk.

4.5 Anne Floquet’s comments in fact point out to the importance of looking at “systems” rather than just livestock. Beyond livestock, to understand how the different farming system (and beyond that, innovation system) operate, and what change is needed. I am happy to see the attention to institutional change – change in policies, in the way people (livestock keepers, farmers) are organized, in the way organizations collaborate (or not). What is key is that this attention to institutional change be translated in enough capacity within the CRP to deal with these issues.

4.6 a) Enhancing livelihoods. b) Conserving natural resources/ecosystem services. c) Diversification of livelihoods.
5. What are the most promising gains that we can expect for smallholders from animal health research discovery and delivery? How do we best achieve these?

5.1 Smallholders expect to limit the rates of animal mortality. For example, the vaccine against Swine African fever should promote a good productivity of the pork. Vaccine of tick-borne diseases can also enhance the productivity of the ruminants.

6. What are the most promising gains that we can expect for smallholders from animal genetics research discovery and delivery? How do we best achieve these?

6.1 Breeding animals for higher productivity that are adapted to local conditions (both feed lot and extensive production). How do we best achieve these?

6.2 The promised gains are the animal weight improved and reduce rearing time. The macrosatellite methods can help to go quickly.

6.3 Improved productivity through better genetics and management practices makes sense so long as: (i) the improved breed sustains productivity under the ambient disease burden and climatic condition, (ii) the cost of improved breed and management practice is offset in a sustainable way by increased profit, (iii) Points (i) and (ii) are proven in situ before encouraging small holder farmers in the target location to change current practice.

7. What are the most promising gains that we can expect for smallholders from animal feed and forages research discovery and delivery? How do we best achieve these?

7.1 Greater investment in dual or multi-purpose crops. How do we best achieve these? Closer collaboration with AFS CRPs (e.g., MAIZE).

7.2 Animal should eat a sufficient and qualitative food to be able to exteriorize his genetic potential. The development of mechanization of agriculture can also help animal feed supply (crop residues, industry residues). Chemical analysis of feed available will help to improve the feed quality.

8. What are the most promising livestock research solutions or interventions we need to discover – or deliver – to meet the world’s environmental challenges? How do we achieve these?

8.1 Ensure that the Livestock CRP adopts a systems approach to research and development.

8.2 In developing country agriculture and livestock are the most causes of environment destruction. The best way is to intensify the livestock and crop systems and reduce as possible the traditional systems, to reduce the number of illiterates for a good dissemination or have a good collaboration with the government for policy management.
9. What are the most promising livestock research solutions or interventions we need to discover – or deliver – to provide more and better animal-source foods to the world’s poor? How do we achieve these?

9.1 Ensuring that appropriate innovations are accessible to smallholder livestock producers and adopted by them.

9.2 Reduce the rates of animal mortality, prevent epidemics, mainly the emergent diseases. Disseminate the good breeds and ensure a dissemination of improved systems with the smallholder farmers.

Delivering the program’s research and development
It is a good document. I would like to plead for a real participatory approach (Participatory Innovation Development or PTD), working together with all relevant stakeholders but taking care the voice and interest of the smallholder livestock keepers does not get lost.

There will be promising entry points for action in each Flagship, but they will all be context-specific. And should be treated as such. That means that a lot of the questions raised now under the Flagship on livestock livelihoods and agri-food systems could serve as entry point for better understanding the system, and the diversity and complexity around it. Research to better understanding the farming systems, livelihoods, value-chain, policy implications have clear implications to all other Flagships. In other words: breeding will benefit from better understanding of the characteristics wanted and needed on certain animals, by certain farmers and markets; the trade-offs around livestock/agriculture/nature conservation; etc.

All Flagships should learn from feedback from different stakeholders working with the CRP, which is only mentioned in the Livelihoods and systems flagship. It is not clear how the different Flagships will function – how they will link to each other, feed into each other and learn. (Maybe it is just not written in this simplified version...!)

10. What are key roles for the private sector in livestock research and development? And the public sector?

10.1 Public sector: support and allow the development of technologies for small scale production (high potential areas) and flexible technologies for the drylands. The systems differ: I see not recognition of this in the text yet really. That means also for public partners: land rights, job creation for those who cannot be sustained by the system. Private: producing and distributing tech that can be used in small scale systems, risk averse.

10.2 In most cases the private sector plays an important role especially regarding the implementation of new technologies. Apart from the fact, that farmers are also part of the private sector, the private sector are the companies that sell the produced commodities. Thus, a close collaboration/coordination is needed so that the farmers produce what the private sector needs.

10.3 The private sector has a role in both testing our research products and scaling. Inviting collaborations with the private sector is one way to engage. The public sector is also a key partner in
cultivating sustainability of adopted technologies. Understanding of the research process by both private and public sectors is an incentive to their technology uptake.

10.4 They are important to promote the intensification of crop-livestock systems and maintain a good market. The good policies in the country should help.

10.5 The private sector can boost also the intensification system and are also able to promote high technologies that smallholders can benefit.

11. How does research best engage with private companies in livestock technology discovery and delivery – what works and what does not?

11.1 Communication is of vital importance regarding collaboration between research and private companies. Private companies have to express their needs as well as their willingness to in some cases fund and more importantly implement developed technologies. Research has to bear in mind the practical adaption of their developments. To reduce any kind of transaction costs, research and private companies should stress an exchange as early as possible at the beginning of a new project/program.

12. What critical institutional capacities are necessary for livestock research to deliver impact at scale in developing countries – how can they best be developed

12.1 For livestock research to deliver impact at scale, there is need to first understand who are our target audiences, what conditions are needed to successfully engage them and the role they play in advancing our research outputs. This information will contribute to developing institutional capacities needed.

12.2 Improving the use of research by livestock sector actors could be catalyzed by listing the actors, mapping their roles and establishing an engagement strategy.

12.3 The trilogy of research-dissemination and training is very useful. It is important to test how they are working to develop a good institutional capacity.

12.4 It is important that capacity development is not seen as a one-off intervention but is multi-dimensional and multi actor process that goes well beyond transfer of skills and knowledge at individual level (training). Critical institutional capacities required to deliver impact at scale would include facilitation for collaboration, navigating complexity, reflection and learning, and engaging in strategic and policy processes-by bringing in organisations with an intermediary role to help facilitate capacity building.

12.5 In my experience, at institutional level, senior management must have complete buy-in. Participants from capacity building exercises say that once they get back to the institution they cannot implement anything because the “bosses” are not interested in new ideas. I agree with the comments above that capacity development goes across the spectrum to all actors. Capacity development is also an ongoing process, not a one-off exercise.
13. Which ways to deliver capacities to livestock sector actors are most likely to produce results, in terms of improved use of research results?

13.1 To improve the use of the research results, it is necessary to involve all key persons involved in livestock sector. Schools primary, secondary and universities, associations, public sector, religions, private sector etc should be involved.

14. How do we best ensure that gender and equity issues are addressed and acted upon in livestock research for development?

14.1 To ensure gender equity I suggest: That we look at gender in a behavioral perspective; taking into consideration the different behavioral attributes of men and women in varying contexts. This may improve understanding of complexities in gender inequality-beyond just the needs, interests, power and resource distribution that commonly defines gender equity and equality interventions.

14.2 Some livestock are already managed by youth and women. It is important to promote that kind of livestock. There is many definitions of gender in the developing countries. The best ways should be to consider all family involve in the activities. In Africa, each gender play a specific role. The important thing is to minimize the exclusion in the society.

14.3 It’s good to hear that “gender analysis is being embedded throughout the program at multiple levels”. My concern is that once gender analysis is embedded, research priority setting, dissemination and scaling would be already well on their way and difficult to amend given the analysis. For now, the proposal puts forward some clear propositions that beg for a clear gendered interpretation (which can quite easily be done by drawing on existing literature from over 45 years of women/gender related agriculture research): a sort of ex ante gender analysis if you will. For instance, the focus on smallholders is welcome but needs unpacking (as others have observed), not only for the diversity of realities this term conveys but also for interrogation into this “black box”. The concepts of small holder and households are related but often elided and used as a unit of analysis. Gender analysis requires us to understand the social relations of gender, particularly the gender relations of production, within the small holder household (to intra household relations) and externally with social and economic worlds. So when we talk about focus on small holders involved with livestock, who are they? How are they socially positioned relative to other members within the household and the community? How is this profile changing given “feminization of agriculture”, gendered demographic trends (eg urbanization) and climate change (to name just three inter-related trends).

Additionally, while the questions for gender integrated research are welcome, they actually should be addressed as part of the proposal’s design. For example, the proposal’s focus on “‘strong growth’ through sustainable intensification of livestock-based systems” sends warning signs: there are some livestock activities that generally remain the purview of women and key sources of livelihoods and food security. Increased commercialization of these activities can lead, as we have learned from other designed shifts in value chains, to displacing women (so while the proposed question “How (would?) technological and institutional solutions impact on gender relations” is a welcome one, I wonder to what extent this has already been explored for the directions included in the proposal).
Similarly, the research question of “How gender (in-)equality affects the technological and institutional solutions that are designed, delivered and studied” is an important one if this is about how assumptions in AR4D about social relations of gender (and farmers’ “knowledges” more generally) shape research priorities and design. In KIT’s work with CRP MAIZE, for example, we found how different ways of thinking about knowledge and knowing impact different ways AR4D integrates gender concerns.

Concerning the strategic research questions, the first is valid (although somewhat broad and redundant if not a little confusing) whereas I was unclear what the actual questions are for the remaining two. Nonetheless, these highlighted issues are fundamental to the gender-integrated research agenda so the question for me is not so much about prioritizing between these two areas, but how to use findings from the strategic research to inform gender-integrated research. For example, dominant gender norms both influence research design as well as their update (it’s unclear which social/institutional contexts the question refers to and whose norms. Small holders? Researchers and research organizations? I agree with Adeline and suggest both). So to understand how gender inequality affects technological and institutional solutions, one has to understand the role of social institutions and how they (re)produce gender norms and are also influenced by them.

I was unfamiliar with some of the gender conceptualizations. What is the distinction between gender relations and dynamics? (they are similar concepts I think). What is the thinking behind asking about how gender equality affects technological and institutional solutions? (is this a case of looking for positive deviance?) What are women pro-active interventions? My assumption is that all gender-related initiatives are, by definition, needing to be pro-active.

15. How should we prioritize between gender-integrated and gender-strategic work?

15.1 Both gender-integrated and gender-strategic work are critical and have different implementation frameworks as well as different key players. My take therefore is that in both the biggest challenge is limited resources for implementation and differing implementation capacities if appropriately addressed will progress towards achieving gender equity.

15.2 The gender-integrated should be the first.