

Draft Strategy for a new ILRI Cross-cutting Program on Sustainable Livestock Futures

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1. What's behind the proposed new Program? Challenges, Issues, Drivers and Opportunities

The livestock sector in developing countries is changing rapidly due to demand and supply factors that strongly influence economic growth, poverty, and supply of livestock products. On the demand side, dietary changes induced mainly by income growth and urbanization, are changing market conditions for livestock products. Growing demand from multiple sources including bio-fuels is increasing competition for biomass between food, feed, and fuel. Climate change and degradation of natural resources put increased pressure on the ability of ecosystems to sustainably produce adequate livestock products to meet the rising demand. There are also diverse actors in the livestock sector, such as private agribusiness, producer organizations, non-governmental organizations, and philanthropy. Responses to a changing livestock context may marginalize poor people and degrade natural resources. Increasing demand and rising prices for livestock products may also provide new opportunities through price incentives and institutional innovations through public-private-NGO partnerships for using livestock in research strategies that support specific pathways from poverty.

ILRI's Sustainable Livestock Futures Programme analyses the complex interactions between livestock systems, poverty, and the environment. Its strong multi-disciplinary team conducts foresight studies on emerging livestock development challenges with uncertain future impacts and signals their importance for other ILRI Programmes and policy makers. The rapidly growing demand for livestock products in developing countries and the importance of livestock in household asset portfolios provides great potential for using livestock to reduce poverty. The Programme enhances the contribution of ILRI's research to poverty reduction by identifying, in collaboration with other ILRI Projects, specific pathways for sustainable poverty reduction and entry points where livestock research can play a role.

Research on livestock futures builds upon research characterizing livestock production systems and poverty to provide information and knowledge into trends and the future perspectives of livestock development in developing countries. Research addresses emerging challenges, such as livestock prices, climate change, demand for bio-fuels, pressure on land and water resources - and draws implications on the importance of these changes for future of livestock systems, poverty, and the environment. The research is undertaken at global, regional, community and household scales, in environments where livestock is a significant component of household livelihoods. Research outputs seek to guide priority setting, for example where to work and on what research issues, in the other ILRI research priorities and influence the global livestock development and environmental agenda.

2. What will the main activities of the Program be?

- Conduct research on the role of livestock in global environmental, economic and social change
- Development of scenarios of how livestock systems may change in the future in response to different drivers and what will be the consequences for livelihoods, food security and the environment
- Identify investment opportunities to remove constraints so that livestock's role in poverty alleviation can be enhanced
- Spatial and targeting analysis and development of livestock-specific data and spatial products for strengthening ILRI's and partners' activities
- Monitoring of economic, social and environmental trends related to livestock and livestock systems, as the basis for a foresight function for ILRI, to identify as early as possible upcoming opportunities and threats, so that ILRI can help to define a modified development agenda and position itself to respond (or something along these lines -- this foresight role is critical, given the dynamics of global systems, and ILRI needs to be ahead of the curve on defining what needs to be done etc)
- Ex-ante impact assessment studies of the potential impacts of specific research activities carried out by ILRI and partners in specific places, and how these impacts could be scaled up
- More systematic (is this household and community level?) analysis of livestock systems in specific regions
- With suitable partners, contribute to the issues surrounding the communication of likely impacts of global/regional change (climate, weather, new markets, etc) to assist in decision making in regional, national and local policy processes, and in livestock system management processes (again, something like this -- but could include the visualisation work and other efforts to help people understand what may be needed in the future -- so utilisation of research outputs etc).

3. What are the key research questions that will be addressed?

- What and where are current and future constraints and opportunities for sustainable pro-poor livestock production?
- How are livestock systems likely to change in the future under different development scenarios? And what will be the impacts on environment and livelihoods?
- How can different livestock production systems help meet the demand for food, feed and livestock products?
- What are the trade-offs arising from competing resource demands between livestock and other enterprises? And how can these be solved?
- What will be the impact of climate change on livestock systems and people dependent on them? What are potentially beneficial adaptation and mitigation strategies in livestock systems?
- What could be the impact of ILRI and partners research on enhancing the role of livestock as a vehicle for environmental sustainability and poverty alleviation

4. What methods and tools will be used?

- Global environmental change and economic partial equilibrium models
- Geographical information systems and spatial analysis
- Regional land use models
- Household models, surveys and other quantitative and qualitative research tools
- Livestock models (herd dynamics, animal nutrition, epidemiology)
- Scenario development methodologies
- Systems analysis
- Qualitative and quantitative analysis (in what sense -- does this mean collation?) of global livestock-related databases
- (something on policy) -- again, communication tools could be here, taking the outputs (from say IMPACT model runs) and turning them into something useful for decision makers etc

Mixtures of methodologies are likely to be used in most studies.

5. What are the anticipated outputs?

- Updated reports on different aspects of global and regional livestock-related trends
- Updated global change models that incorporate livestock explicitly and that are able to quantify their role in poverty reduction and environmental sustainability
- Better understanding of how livestock systems are likely to change in the future and how this could be used to influence the research agenda within and beyond ILRI
- Reports, datasets and spatial products indicating the current and future location of constraints and opportunities
- Model results, datasets and descriptions indicating projected livestock system productivity and the major resource trade-offs under different scenarios
- Better understanding of livestock-related mitigation and adaptation strategies to climate change
- Estimations of pro-poor and environmental benefits of out- and up-scaling selected livestock interventions

6. What outcomes are being sought?

- Policy makers, donors and development organizations recognise the contribution of livestock to poverty alleviation and sustainable production and use this information to fund development and market interventions (with all the infrastructural pieces that may be needed)
- The global change community adequately recognizes the role of livestock in global integrated assessments of agriculture, climate change and agro-ecosystems services and use this information to help increase resource allocation to fund livestock-related projects.
- ILRI staff and partners design and manage collaborative projects keeping future livestock related trade-offs in mind
- ILRI management and staff use results of impact studies in the design of projects and in Institute public relations
- ILRI and the livestock research agenda are visible in the new CG strategic focus and mega-programs

7. Structure and Human Resources

Current human resources in the Program:

- IRS – 6 scientists
 - System analysts: 2
 - Spatial Analyst: 2
 - Ecologist: 1
 - Environmental scientist: 1
- NRS research – 4
 - Economics: 1
 - Ecology: 1
 - Spatial analysis: 1
 - Data management: 1
- NRS Support staff: 1.5 (Admin: 1, Finance: .5)

Identified HR needs in the near future:

- Land use / global change joint appointment (IRS)
- Communications specialists (NRS, part time)
- Livestock scientist / modeller (IRS, household and livestock modeling skills)

8. Partnership strategy

Key to our partnership strategy is the development of strong linkages internal and external linkages.

Externally, we will continue developing strong links with the global change community, e.g. PBL, CCAFS, IPCC, UNEP), with team with significant expertise in trade-offs analysis and ex-ante impact assessment, with the spatial analysis community (CSI, others). This will allow us to position the programme strategically to participate in high-level initiatives (IPCC's 5th Assessment, new Millenium Ecosystem Assessment, others) and to bring livestock to the front of the agenda.

Also the ties with ILRI research programs, across research themes and programs, will be strengthened. This will be accomplished by involving senior staff of each of these groups in selecting a limited number of annual strategic outputs addressing important knowledge gaps and providing context for livestock research and development. This has the advantage of ensuring the research of the sustainable livestock futures programme contributes to ILRI's broader research strategy and desired outcomes.

To achieve our desired outcomes, within ILRI we will work closely with:

- Research Themes – most of the poverty and gender program’s outputs will be reported as outputs contributing to outcomes within a program/operating project of one of ILRI’s 3 Research Themes
- Poverty and gender programme – *ex ante* IA
- Research methods group – on data and research design, software and training
- Knowledge management group: on data dissemination
- Capacity strengthening – on building capacity of partners in integrate assessment, GIS and upscaling methodologies
- ILRI management – informing decisions on research priorities

Our partners outside ILRI will be strategically chosen to help our research teams’ capacity in global and regional integrated assessment and trade-offs analysis (e.g. with international and local partners that have skills and experience in areas where we have gaps). Our ongoing, successful partnerships with research ARIs and international organizations will be maintained.

Key partners outside of ILRI will include:

- Other CG centres (notably IFPRI, IWMI, CIMMYT and ICRISAT)
- IIASA – global change modeling, land cover
- PIK – climate change
- Michigan State University – land use – climate interactions
- Wageningen University – systems analysis
- University of Edinburgh – global change and sustainability
- Colorado state University – rangelands and agropastoral systems
- FAO – livestock and environment
- VITO – remote sensing
- CGIAR Consortium for Spatial Information: data sharing, analysis and dissemination
- PBL (Netherlands Environmental Agency) – land use change
- UNEP - Global environmental assessments
- CCAFS – climate change activities

9. Funding strategy

Internal funding sources:

- Core funds for the production and dissemination of strategic livestock information
- Funds from other Programmes budgets for ex-ante impact assessments of selected ILRI interventions
- Core funds for strategic partnership/communication efforts not linked to specific projects – e.g. linkages with IPCC, other global and regional initiatives

The short-term goal of the Program will be to achieve a balance of around 40% core versus 60% project restricted funds. This will continue to be re-evaluated and may shift towards less restricted funds as the relative demands on Program staff’s time becomes more evident, e.g. from the new mega-programs.