

ILRI

INTERNATIONAL
LIVESTOCK RESEARCH
INSTITUTE

ILRI strategy 2013-2022 Annotated outline

Presented to the ILRI Board of Trustees, March 2012¹

This annotated outline (overview below) will form the basis for the full strategy. Throughout the document a number of key issues for further discussion are articulated, and these are drawn together at the end, highlighting some of the processes already in place to address these.

In approving this outline of content and process, the board is requested:

- To comment on the proposed framework and the plans to further refine this
- To comment on the list of issues to be addressed, and where appropriate suggest further process elements

¹ Presented by Shirley Tarawali on behalf of the strategy development Task Force

Contents

ILRI today

The critical livestock sector development challenges

The global agenda
CGIAR strategic results framework
Global livestock context
Outputs from the Livestock Exchange
Identifying the livestock development challenges

The principles of ILRI's approach

ILRI's vision, mission and the overall livestock development context
Clients and their needs
ILRI's competencies and strategic advantages

Research agenda

What

Biosciences for animal health, genetics, feeding
Market based livestock development
Systems research spanning mixed crop livestock and pastoral systems, modeling and assessment of trade offs
Livestock-environment
Livestock – human health and nutrition
Livestock productivity

Where

How

Gender
Innovation research
Partnerships
Capacity development
Communication and knowledge management
Human resources, finance and operational support

ILRI strategy 2013-2022 – annotated outline

In 2002, as a result of internal and external consultations, the International Livestock Research Institute (ILRI) developed its strategy from 2003 – 2010, *Livestock - a pathway out of poverty*. Recognizing significant changes in relation to ILRI both externally (especially in the context of the reform of the CGIAR as well as the place of agriculture, including livestock, in global development) and internally (a new director general and significant management changes), the institute's Board and management developed an interim strategy covering 2011 – 2012, in anticipation that by early 2012 the changes would be in place and the time would be ripe for the development of a new ten year strategy. In preparation for this, in late 2011 ILRI hosted an event, the Livestock Exchange, to consolidate the achievements, challenge and changes in ILRI's research over the past decade, and position these looking to the future in readiness for the new strategy development (<http://livestockexchange.wikispaces.com/Issue+briefs>). Drawing from that event, from a brief online, internal consultation² around key issues and an overview of the global livestock sector (informed partly by a high level consultation on the Global Livestock Agenda to 2020 convened by ILRI and the World Bank) together with ILRI's role in the CGIAR Research Programs (CRPs), this paper presents an overview of the elements of the new strategy, summarizes key dimensions of what, where and how ILRI works and identifies a number of critical issues that need to be explored in further depth and some suggestions on elements of the process to do so and thereby focus the agenda. A final strategy will be presented to ILRI's Board of Trustees in November 2012.

ILRI today

ILRI's focus on the role of livestock in addressing poverty remains germane today, and is likely to do so in the coming decade. However lessons learnt during the past decade, the current positioning of livestock research for development and the strategic results framework (<http://consortium.cgiar.org/our-strategic-research-framework/>) that sets the overall development challenges of the CGIAR consortium indicate that this underpinning rationale needs to be further nuanced. This needs to happen both in relation to the role of animals in alleviating poverty (as has been the past focus) and in the context of a broader set of agricultural development goals covering food security, nutrition and health as well as natural resource management. These are some of the aspects that will be further explored below in order to begin setting the boundaries for ILRI's future focus. In this section ILRI's current vision, mission and position – today's starting point, are articulated.

ILRI is a member of the consortium of Consultative Group on International Agricultural Research (CGIAR) centres. The institute works with partners to help poor people keep their farm animals alive and productive, increase and sustain their livestock and farm productivity and find profitable markets for their animal products. ILRI envisions a world made better for poor people in developing countries by improving agricultural systems in which livestock are important. The institute's mission is to work at the crossroads of livestock and poverty, bringing high-quality science and capacity-

² About 60 staff responded to an online survey monkey. Responses to some of the key questions are summarised in boxes throughout this document.

building to bear on poverty reduction and sustainable development for poor livestock keepers and their communities.

ILRI works in partnerships and alliances with other organizations, national and international, in livestock research, training and information. ILRI works in tropical developing regions of Africa and Asia, with its headquarters in Nairobi, Kenya, a principal site in Addis Ababa, Ethiopia and staff based in offices in sub Saharan Africa, South Asia, South East and East Asia (Figure 1). Internally the institute is organized in three major research themes, Markets, Gender and Livelihoods; Biotechnology and People, Livestock and Environment (Box 1) with communications, knowledge management, capacity development, and partnership units integrated and supporting these research themes. ILRI’s campus in Nairobi also hosts the Biosciences east and central Africa hub – a biosciences research platform (<http://hub.africabiosciences.org/>).

View ILRI locations on Google



Figure 1. ILRI’s global locations.

Box 1. ILRI's research themes, March 2012

The **Biotechnology Research Theme** builds on ILRI's collaborative advantage in the field of biosciences to engage with a wide range of partners to develop new products and tools specifically aimed to mitigate threats to the assets of the poor that other suppliers are unlikely to consider. The products of such research may also frequently improve livestock productivity. In selecting this focus ILRI recognizes that securing assets, and the related goals of achieving food and nutritional security, are of particular concern to women and their children, and this therefore is likely to be an effective route to reducing family poverty. In the field of animal health, research seeks to develop appropriate diagnostics to help identify disease threats and develop specific vaccines. For genetics and genomics, this research theme includes identifying and using genetic adaptations such as disease resistance and developing appropriate marker technologies to facilitate delivery of genetic improvement into farmers' herds/flocks.

The **Markets, Gender and Livelihoods Theme** works to improve opportunities for poor livestock keepers to access markets for their livestock products. Marketing of livestock and livestock products has long been an essential pathway for income generation for the poor. Livestock markets in the developing world are growing rapidly as consumer demand for livestock products increases due to population, income and urban growth and changing patterns of food consumption in urban areas. The research spans the livestock supply chain from production, procurement, distribution, processing to sale in national, regional and world export markets. We work to provide appropriate technical, policy and institutional options that will enable the poor, especially women and other marginalized groups, to participate more effectively in remunerative livestock markets.

The **People, Livestock and the Environment Theme** conducts research that includes sustainable feed options that enhance livestock production and contributes to the transition of smallholder crop livestock farmers to improved livelihoods through market participation without environmental damage. Modelling, mapping and implementing systems analyses are key components to this theme, which also includes a strong capacity to implement research related to climate change adaptation and mitigation for livestock systems. The research also seeks to provide options for reduced vulnerability and improved livelihoods in pastoral systems through better management of risk and improved adaptive capacity. With over 18,000 accessions in the Addis Ababa genebank, the theme seeks to ensure forage diversity that is safe, healthy and available to contribute to new demands from changing livestock systems.

The critical livestock sector context and development challenges

To identify the critical livestock sector context and development challenges, this section considers a number of dimensions that set the scene for livestock research – the global development agenda, the livestock dimensions within this, the Strategic Results Framework and feedback from the Livestock Exchange as well as the recent high level consultation on the Global Livestock Agenda to 2020 (<http://www.ilri.org/ilrinews/index.php/archives/8514>). It identifies a framework within which to organize livestock development challenges which provide the context for ILRI’s strategy. Beginning with development challenges provides the context within which to identify the research outcomes and beneficiaries, and thus the clients who use research outputs and the processes (the “how”) needed to ensure that such outputs are relevant and accessible to these users. In this way, the strategy is built upon an outcome logic or impact pathway type thinking, which enables both research and process outputs to be considered in an integrated way to address development outcomes.

Note: This section to be further strengthened with deeper assessment, empirical evidence

The global agenda

Agriculture, including livestock is back on the global agenda – from the food crisis of 2008, and the recognition by the G20 of the role of agriculture in food security, through to the 2011 crisis in the Horn of Africa, the global development community seeks to enhance the contribution of agriculture, including agricultural research for development to such major issues. Globally there is consensus around a number of key issues with implications for livestock. Food security is high on the agenda, with some 1 billion malnourished today, and a population expected to continue to rise through to 2050 meaning an additional 2.5 billion people to feed – many of whom will be in developing countries and among the poorest. To meet this demand, agricultural productivity needs to increase by some 70% and with most of the agriculturally suitable land already in use, such an increase must come from intensified, efficient systems underpinned by transformative new technologies. It is anticipated that 1 billion tonnes of cereal grains will be needed to meet food and feed demands, and the so-called livestock revolution shows no sign of abating with demand for animal products continuing to rise in relation to population growth, urbanization and changing incomes. Alongside addressing these major food security and poverty aspects, it is well acknowledged that environmental dimensions, including climate change, and the management and use of land, water and biodiversity cannot be ignored. The threat of both animal and human disease, often interconnected further complicates the picture as does the need to balance diets. On the one hand mitigating over consumption for the 2 billion people who are overweight and on the other, addressing malnutrition for some 1 billion of the World’s poorest. The role of women in agriculture is undisputed, with recent results showing that improving women’s access to inputs and services has the potential to reduce the number of malnourished people in the World by 100 - 150 million (FAO and Farming First, 2012³). This is especially important in the livestock sector.

³ Food and Agriculture organization, 2011. The state of food and agriculture: Women in agriculture-closing the gender gap for development. FAO, Rome and <http://www.fao.org/gender/en/>

CGIAR Strategic Results Framework

Arranged to address the key development challenges which defined as four strategic system level outcomes (SLOs) to be pursued, all of which have been derived from the CGIAR's vision and the Millennium Development Goals:

- Reduce rural poverty
- Increase food security
- Improve nutrition and health
- Ensure more sustainable management of natural resources

To address the SLOs, the consortium of international agricultural research centres (the CGIAR) is organized in CGIAR Research Programs (CRPs), which aim to consolidate the centres' research around these key development issues. ILRI leads one CRP (*CRP3.7: Livestock and Fish*, www.livestockfish.cgiar.org) and participates in six others (Box 2).

Box 2. ILRI in the CGIAR Research Programs.**CGIAR Research Programmes****1.1 Dryland systems**

Led by ICARDA; ILRI research on: Mitigating vulnerability, sustainable intensification including trade-off and systems analyses

1.2 Humid tropics systems

Led by IITA; ILRI research on: Sustainable intensification including trade-off and systems analyses

1.3 Aquatic agricultural systems**2. Policies, institutions and markets**

Led by IFPRI; includes ILRI research on value chains, systems and gender analyses

3.1 Wheat**3.2 Maize****3.3 Rice****3.4 Roots. Tubers and bananas****3.5 Grain legumes****3.6 Dryland cereals****3.7 Livestock and fish – led by ILRI with World Fish, CIAT, and ICARDA****4. Agriculture for improved nutrition and health**

Led by IFPRI; ILRI leads component on prevention and control of agriculture associated diseases including food borne diseases, zoonoses, and emerging infectious diseases

5. Water, land and ecosystems

Led by IWMI; includes ILRI research on: Challenge Program Water and Food – livestock productivity in crop livestock systems; innovation platforms, some work on pastoral systems

6. Forests, trees and agroforestry**7. Climate change, agriculture and food security**

Led by CIAT; includes ILRI research on: systems analyses, macro level and household Models, climate change mitigation and adaptation in livestock systems

ILRI's research both within and outside of the CRPs needs to align with regional and continental agendas, such as the CAADP (the Comprehensive Africa Agriculture Development Programme <http://www.nepad-caadp.net/>) agenda in Africa, which the consortium of the CGIAR is actively seeking to strengthen alignment with⁴.

Global livestock context

Within the four dimensions of poverty, food security, nutrition and health and natural resource management, there is consensus about a number of issues regarding the livestock sector.

Poverty

- There are significant numbers of poor people, especially in sub Saharan Africa and South Asia, who are dependent on livestock for their important elements of their livelihoods.
- In some cases, the strong growing demand and dynamics of the livestock sector provides new income and employment opportunities for the poor

Food security

- The majority of the world's food – both cereals and livestock products – comes from agro pastoral and mixed crop livestock systems and more than half is produced by farmers with less than 2 ha of land (FAO)
- Future food security depends on the extent to which these systems can be sustainably intensified

Nutrition and health

- Animal source foods can play a major role in ensuring sound nutrition, especially for the most vulnerable
- Over consumption of animal source foods leads to significant detrimental health issues
- Zoonoses are the fastest growing global disease threats, with food safety impacting significantly in many places

Natural resource management

- Livestock production impacts significantly on land, water and biodiversity
- Livestock production contributes to climate change through the production of greenhouse gases
- There are opportunities to reduce livestock sector greenhouse gas emissions, and negative impacts on natural resources especially in developing country systems, including improving production efficiencies

⁴ www.irishaid.gov.ie/Uploads/Final%20Summary%20Science%20Agenda%20for%20African%20Agriculture%20DublinMeeting2011.pdf

Further framing these dimensions there are a number of ongoing changes in the livestock sector in developing countries:

- The continued differential growth in demand for livestock products in emerging countries
- The food supply, price and productivity growth challenge that is threatening to undermine recent gains in food security
- The increasing market-orientation of many smallholder producers, and so opportunities for technology uptake
- New and more cheaply available genomic tools that can accelerate new technology development
- Increasing private sector investment in agriculture and food production
- Continued and in some cases increasing concern about livestock's threat to environmental services, and the natural resource base
- Increased capacity among regional and national partners in host countries for research for development
- Increased donor awareness of the need to invest in rebuilding capacity for delivery of outcome-oriented agricultural research

Outputs from the Livestock Exchange

Over 70 briefs, think pieces and video clips are available on line

(<http://tinyurl.com/livestockXoutputs>) in summary, the main lessons highlighted during these deliberations include the following, many of which relate to the “how” of ILRI’s research.

- Livestock research needs to go beyond generating research outputs, to address development outcomes and position for impact.
- Partnerships are a crucial element of ensuring that development outcomes, and thence, impact are realised. This will require specific and careful development of engagement strategies with a diverse range of partners, spanning development, private and public sector...etc Whilst ILRI has presence in many regions around the world, significant engagement with partners will require redressing the balance of core competencies, ways of working and managing expectations (on both sides) – the game has changed here!
- Being responsible for development outcomes also requires that gender, communications and capacity building are a much more integral part of research for development
- ILRI’s past research emphasis on the positive role of livestock in poverty alleviation needs to be more subtle and balanced, recognising that there is no “one size fits all” either with regard to development trajectories and the roles of those dependent on livestock, or in relation to the impacts of livestock production – which have many potential negative implications to be mitigated (environment, health etc.)

- ILRI's competencies in livestock research stretch from high end biosciences through economics, biophysical field research and social sciences. Joining these parts together is both an opportunity and challenge.
- Similarly, ILRI's strengths in a number of livestock areas – systems, smallholder markets and gender are well recognised and can provide a strong basis for moving into the future
- The roles of livestock in relation to human health and nutrition – both positive and negative is back on the agenda of livestock research for development. ILRI needs to consider how to position itself with regard to its “in house” competencies and how to engage with partners (eg in medical and nutritional arenas) in this potentially vast arena.
- ILRI has traditionally worked on ruminants, especially cattle whereas much of the livestock sector growth is envisioned in the pig and poultry sectors. There is scope for careful positioning of ILRI's research for development in these areas.

Identifying the livestock development challenges

Whilst there is global consensus around very broad development challenges related to food security, poverty, health and nutrition and environmental aspects, it has become increasingly apparent translating these into livestock focused development challenges needs to be further nuanced. In each dimension, there are a number of factors that determine the priority issues as well as the likely future trajectory of change. Among these factors at the highest level, are the livestock system, its potential for growth, the regional and country economic situation and the differences in opportunities and constraints for different livestock commodities. These dimensions become further nuanced at regional, national and local levels. Figure 2 depicts a preliminary over-arching framework to articulate the key livestock development challenge, disaggregated according to broad (and simplified) livestock system categories (Robinson et al., 2012⁵).

- Pastoral systems which are very dependent on natural resources, often operating at the margins of both society and agriculture, and extremely vulnerable, in some cases with limited potential for productive growth.
- Mixed crop livestock systems, currently providing much of the World's food and likely to change dramatically although differentiated regionally, in the coming decades. Opportunities for growth in the livestock sector, which needs to address health, environmental as well a social and equity dimensions at the same time.
- (peri) urban systems include intensified and at times specialised systems, often operating at larger scales than mixed systems and where challenges of environment and health are often paramount.

⁵ Robinson, T.P., Thornton, P.K., Franceschini, T., Kruska, R.L., Chiozza, F., Notenbaert, A., Checchi, G., Herrero, M., Epprecht, M., Fritz, S., You, L., Conchedda, G. and See, L. 2011. *Global livestock production systems*. Rome, Food and Agriculture Organization of the United Nations (FA) and International Livestock Research Institute (ILRI). 153 pp.

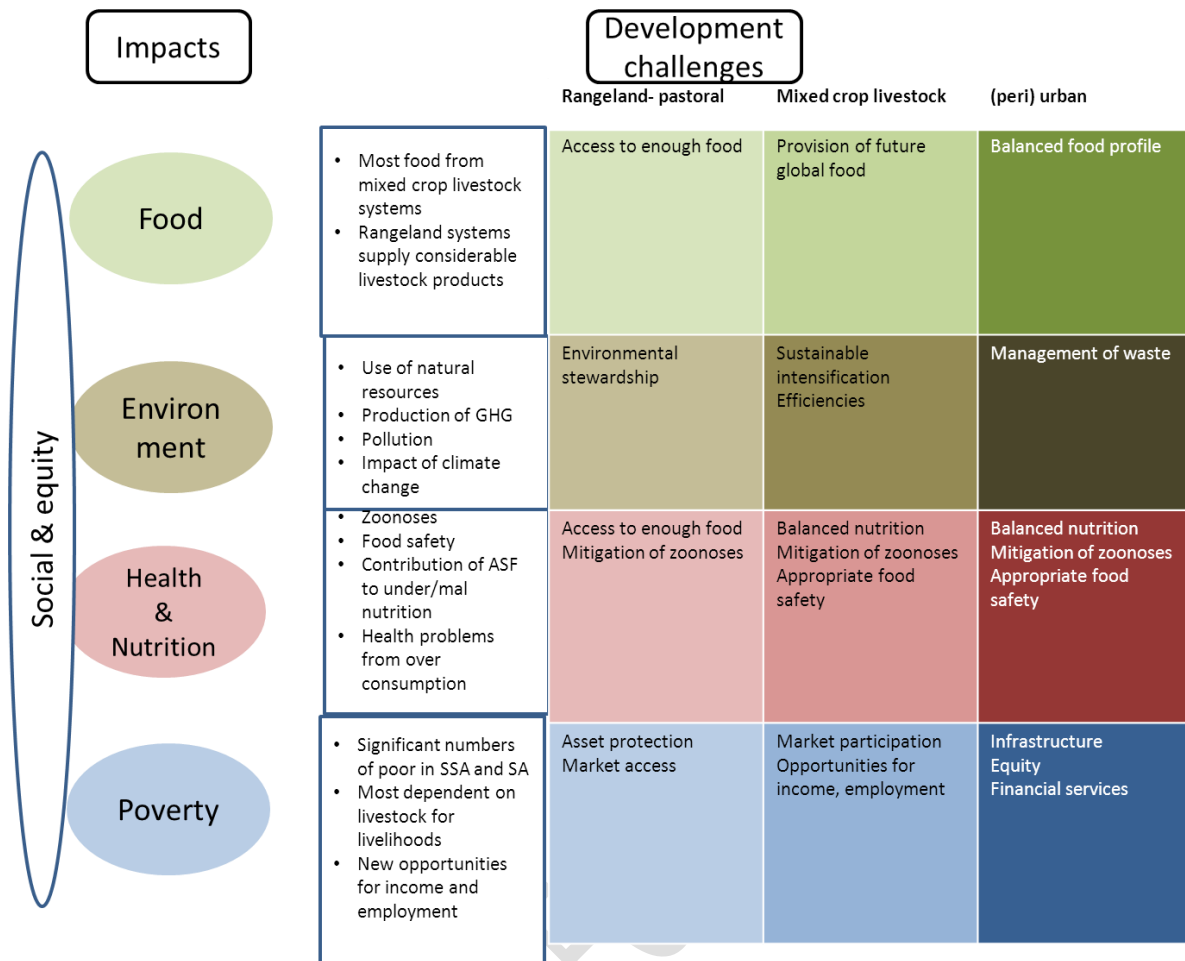


Figure 2. Schematic representation of livestock development challenges in relation to different livestock systems and overall global impacts. The bubbles on the left are the areas that the world seeks to see impacts – they are also the categories used for the four system level outcomes in the Strategic Results Framework of the CGIAR. The white boxes summarise some of the ways in which livestock systems relate to these key issues, and the coloured boxes provide some examples (only – not intended to be comprehensive) of development challenges disaggregated according to these impact categories and livestock systems.

Whilst this schematic is not perfect, it does provide a framework within which to organize the conceptualization of the strategy, and to apply quantitative and qualitative assessments to direct priority setting. The framework certainly has limitations regarding external drivers such as climate change and environment, although may consider how these impact within the various “cells”. It is also interesting to note that a similar framework emerged from the recent ILRI-World Bank high level consultation (Annex 1).

Note: Further work is needed to agree on the framework; and to provide appropriate empirical assessment to determine priorities, and how this may be further used for example in identification of clients, how it may be used to further specify what is done where..

The principles of ILRI's approach

In relation to the global context and development challenges highlighted above, this section considers the principles help to set the boundaries for ILRI's approach. In some cases the institute's focus is clear and there is consensus, in others, a number of questions remain to be addressed.

In relation to ILRI's vision, mission and the overall livestock development context

Given significant numbers of poor dependent on livestock, ILRI's research will continue to address the role of livestock in livelihoods. However, two new issues arise here, which require further exploration:

- Broadening the research portfolio beyond a poverty focus to address the dimensions of food security, environment, health and nutrition, considering livestock in relation to both positive and negative impacts. In many respects, ILRI's roles in the CRPs (Box 2) both provide some guidance on this, as well as providing fora for interaction with the wider research and development communities working in these areas.

Note: ILRI's role in delivering the livestock expertise around broader areas in CRPs (and beyond) needs to be articulated, the institute's' skill sets appropriately aligned and the research in relation to each dimension clarified.

- Considering not just the poorest sectors of society (ie those living on less than \$1.25/day) but a wider group of those less poor (eg less than \$5.00/day) and who may be both directly or indirectly involved in livestock enterprises, including both producers and consumers of animal source foods.

Note: New global assessments of livestock and different levels of poverty will be required

ILRI staff who participated in the survey consider reducing poverty and increasing food security the most important areas of work, and over 50% disagree with including a wider group of the not-so-poor.

ILRI staff who participated in the survey think that a focus on producers is most likely to have impact, but most other categories of livestock related participants, including consumers should also feature.

Clients and their needs

In addition to the "ultimate clients" – the poor, as described above, there are a range of clients for ILRI's research and the client profile is evolving as the institute seeks to position itself more directly in the livestock research for development arena. This means a wider and deeper engagement with the development and private sectors in particular (for example as described in CRP3.7), but also

reconsidering the changing agendas and capacities of national institutes, ministries, and bilateral donors, not least in Africa in relation to the CAADP agenda and the alignment of the CGIAR consortium with this. It has also been recognized that in order to develop meaningful relationships that lead to sustainable results, there is need to give more careful consideration to the identification and modalities of partnerships. Key issues to address in this regard include:

- Appropriate identification of the ultimate beneficiaries and intermediate client groups and differentiating their needs, which may be further nuanced according to the development challenges (Figure 2), delivering not only research outputs but also outcomes.
- A strategy to distinguish strategic partners – those with whom a deep and multifaceted engagement is needed to deliver on the portfolio, or who have key global or national roles in the livestock sector and collaborators with whom there may be project specific engagement, often on a short term basis.
- Fully integrating gender into ILRI’s research portfolio will have implications for the institutes’ staffing profile and way of working but has considerable potential to strengthen the impacts.

Note: A systematic way of identifying appropriate partners with diverse roles, and clarifying strategic partners, collaborators and their roles will be essential.

ILRI’s competencies and strategic advantages

ILRI’s multiple locations around the World, in the midst of developing country challenges are an advantage that cannot be underestimated. Furthermore, in many instances, ILRI’s offices are co-located with those of key partners, be they other CG centres with whom engagement in the CRPs is strengthening, or national and regional partners. ILRI’s research covers a significant breadth of livestock research, from high end laboratory to on the ground field based research as well as economic and policy dimensions. Whilst presenting an almost unparalleled position in the livestock research for development sector, this also presents a challenge, with limited staff and resources addressing a global agenda that spans such a diversity ILRI often finds itself spread “too thinly” and must therefore face the question of focus. This outline document seeks to articulate some of the choices that must be made in this respect.

Issues related to ILRI’s competencies in biosciences for animal health, genetics, feeding; market based livestock development; systems research spanning mixed crop livestock and pastoral systems, modeling and assessment of trade offs; livestock-environment; livestock – human health and nutrition and livestock productivity are summarized below, with some key issues raised for consideration in focusing the strategy.

Research agenda

This section considers how the context, development issues and ILRI's approach leads to identification of the institute's research agenda, in terms of **what** should be priority research topics, **where** this work should focus and **how** it should be implemented. Importantly, it describes the key issues where there seems to be consensus (within and outside ILRI) and those where there are questions to address in the process of finalizing the strategy.

What

Aligning with the livestock development challenges, ILRI's role in the CRPs and building on ILRI's competencies, infrastructure and global locations in the developing world.

Biosciences for animal health, genetics, feeding

The application of new advances in biosciences could be one of the most transformative impacts on developing country agriculture. With the state-of-the-art BecA platform, and a range of competencies amongst its staff, ILRI is uniquely placed to connect such advances to the on the ground realities. For livestock, this is especially true in relation to productivity-determining technologies for breed and health as well as in relation to zoonotic diseases. Feed aspects intersect with the crop agendas, and there is a real potential here to bring together crop research (in the CRP 3s), high end molecular approaches and on the ground feed quality, quantity and delivery aspects. Prioritizing and focusing this capacity on the issues where this will lead to the most impact is one of the key challenges in formulating ILRI's new strategy. In view of this, a preliminary consultation process has been initiated. The first stage of this is a series of telephone interviews with an expert panel with the aim of identifying the priority issues where ILRI is well placed to contribute through biosciences research. For each of these three dimensions, shaped by the results of the initial consultation, subsequent interactions with key internal and external stakeholders will take place to further refine the strategy in each area.

Note: prioritizing issues to address in the biosciences area, in relation to ILRI's unique position (such as biosciences research, BecA, diverse locations in the developing world) is a key issue to address.

Over 70% of ILRI staff who participated in the survey consider that cutting edge advanced science with global relevance should be a focus of ILRI's work.

Market based livestock development

In recent years, ILRI's research portfolio has been increasingly organized around value chains and market based development, exemplified in the CRP3.7 strategy as well as a number of ongoing projects. The approaches include taking a "whole value chain" approach, bringing together elements of the productivity (feed, breed, health), value chain and innovation strategies together with gender, monitoring and evaluation, targeting. ILRI seeks to position itself as a research partner in the context of larger development projects, and there are many lessons still to be learnt about the modalities for doing this. Roles that ILRI can play range from technical support to livestock interventions to results-oriented learning as to what strategies and technologies work and their impacts, to facilitating innovation among both development agents, the target beneficiaries and beyond. There are also questions that need to be addressed in terms of the combinations of skill sets that are required to function in this new mode that will demand increased interaction with the development and private sectors in particular, while at the same time generating global public good outputs .

Note: modalities for working in value chains, engaging with development and private sectors; linking up and balancing research with monitoring and learning are important dimensions.

ILRI staff who participated in the survey have divergent views about the importance of value chain research, indicating that this is one, but not the only approach.

Local production, marketing and consumption by the poor are increasingly influenced by global trade policies, it will be necessary for ILRI to consider research that looks at global trade scenarios and their implications. This may require new skills, capacities and partnering not least with regard to engagement and influencing such global aspects. The analytical tools for assessing successes and impacts of value chain interventions, are mostly rudimentary and require further development and testing. In both of these areas, ILRI's participation in CRP2 will be an ideal place to explore this further and engage with other research leaders in these areas.

Note: research on global trade impacts on local livestock production systems could be a relatively new area of research for ILRI

Systems research spanning mixed crop livestock and pastoral systems, modeling and trade offs

Within the CGIAR (and beyond) ILRI's strength in systems research, and scenario analysis in relation to global livestock systems is well recognized. ILRI has a major role in CRP7, on climate change, addressing issues of mitigation and adaptation in relation to livestock systems, with the opportunity in future to strengthen the links between on the ground technologies and system level modeling and foresight. Research on trade offs, especially in relation to biomass use is a key feature of systems work in CRPs1.1 and 1.2 and will require ILRI to strengthen and broaden this area of work, building upon recent analyses conducted in the context of the system wide livestock programme and leading to concrete solutions. ILRI's systems team also have a key role in guiding empirical assessments that

lead to appropriate targeting of ILRI's research and more broadly of research in the systems programmes and of CRP3.7 and 2.

Note: using and positioning systems research in the global agenda; ensuring livestock is part of the equation and leading to on the ground solutions are among the challenges. Translating global climate change implications into realities for livestock systems will be important.

Livestock-environment

ILRI's research addresses a number of dimensions related to livestock-environment issues – climate change (in CRP7), livestock and water (in CRP5) as well as crop livestock systems, and pastoral systems in relation to environmental issues (CRP1.1, 5). Recently the issue of livestock and environment in relation to increased production and marketing in livestock value chains, the focus of CRP3.7 has become an increasingly important issue and there are efforts underway to better articulate how such issues can be systematically addressed in developing country contexts, bringing together skills in Life Cycle Analysis (with strategic partners such as Wageningen University and FAO). Such issues also relate to improving efficiency of livestock production which is one of focus areas for the Global Agenda of Action in Support of Sustainable Livestock Sector Development (www.livestockdialogue.org) and ILRI will participate in the meeting to develop the agenda for this focus area in Rome in early April. A number of issues need to be addressed in formulating the future strategy.

- There is real potential to integrate more of ILRI's work on livestock and the environment, and to determine the institute's role in global livestock environment issues
- In mixed and pastoral systems, issues related to payment for ecosystem services are becoming high on many development agendas and there is a vast body of information, but limited practical solutions. Clearly ILRI can have a role here, in pastoral systems where it has begun already to engage, as well as in mixed systems, but there is a need to further clarify the institute's niche. A position paper on payment for ecosystem services is almost complete and will help to guide this process. There is also an opportunity to host, together with ICRAF a stakeholder consultation on this issue and an initial step in this process will be discussions at the meeting on one of the focus areas for the Global Agenda of Action on *restoring value to grasslands* to be held in Brazil in May.

Note: there are opportunities for ILRI to be systematic in developing its research on livestock environment. In both intensifying and extensive systems, there are many players and ILRI needs to carefully craft its role.

Livestock – human health and nutrition

ILRI is well positioned to take a key role in aspects related to livestock impacts on human health (zoonoses and food safety) and has the potential to engage in areas related to strengthening livestock aspects related to human nutrition (positive and negative). The institute has the responsibility of leading one component of CRP4, (on agriculture associated diseases) and the

potential to intersect with global agriculture and human nutrition players within the broader CRP. Moving forward, a number of challenges need to be addressed.

- Integrating ILRI's skills in biosciences, risk assessment, social science and gender, markets and policies to impact on issues of livestock agriculture associated diseases will be a key feature of ILRI's initial engagement in CRP4.
- Developing a strategy to engage in the human health arena. In the past, ILRI planned to participate in aspects related to livestock and human nutrition, through engaging with appropriate health professionals and organizations. This proved to be difficult without in house capacity, but it is at the same time recognized that it would be difficult – or inappropriate for ILRI to directly employ medical/health sector staff. Some careful thought around priority topics and modus operandi are therefore required.

Note: internal organization, and targeting of efforts has the potential for ILRI to contribute significantly in areas of zoonoses and food safety. Research on livestock and human nutrition requires a new approach.

Over 80% of ILRI staff who participated in the survey consider it important for the research portfolio to consider both positive and negative implications of the livestock sector on the environment and human health.

Livestock productivity

ILRI's research on livestock feeds (especially food feed crops, feeding strategies, fodder innovation systems, forage diversity), breed and especially breed delivery, vaccines, delivery and diagnostics all contributes to livestock productivity. In recent times and in relation to the value chain approach described above, it has been recognized that such research needs to be brought together as different but very inter-related aspects of animal productivity with in turn is a major determinant of market participation by smallholders. Components of service and input delivery and how actors involved in this have been factored in through innovation systems approaches in relation to value chains. However, there is a strong demand from many national partners (and some CG) for ILRI to again raise its profile in livestock technology research for productivity and the capacity development activities that are associated with this. Clearly there is a challenge to determine the appropriate balance here and the extent to which ILRI should give a higher profile to this area needs to be debated and clarified as part of articulating the institute's strategy.

- How to respond to strong demand to support technology development which needs to be balanced with the comparative advantages of national partners
- Our sister center, CIAT, has invested heavily in genetics of forages. ILRI has partnered with some centers to work on genetics of food-feed crops. There may be new opportunities in these areas, in particular related to molecular approaches.

Note: there is an opportunity for ILRI to re-position itself with regard to research on livestock productivity. This needs to balance a number of dimensions such as the institute's role versus those of national programmes, ensuring that technology research is placed within broader development context and needs and that there are appropriate service and delivery mechanisms.

Where

ILRI's current research portfolio focuses on sub Saharan Africa and South Asia, with some work in South East Asia. This focus is largely based on the regions with the highest numbers of poor livestock dependent people (Thornton et al., 2002). If the same principles are applied, focusing on poor (less than \$1.25/day), much of this focus remains the same. Empirical analyses to inform this focus is available in the recently published Global Livestock Production Systems (Robinson et al., 2011). There are a number of questions to be answered in defining the geographical focus of ILRI's strategy into the future.

- Retaining the \$1.25/day cut off point (which is really abject poverty), what are the implications for priority areas of poor livestock dependent people. How does this change if the level is changed in relation to the issues about that consider livestock consumers and a broader group of poor and not-so-poor beneficiaries – where the latter still need help to keep out of poverty and to continue to improve their livelihoods.
- What are the opportunities for systematically further disaggregating livestock production systems and locations that can further inform the institute's focus? Is it possible to relate these to the priority development challenges (for example issues of waste management * numbers of poor (* livestock commodity) could lead to a focus on a country such as Vietnam...etc)?
- What are the implications in terms of ability to manage research and deliver outputs in a potentially expanded geographical profile?
- What are the implications of excluding some major livestock regions for our desire to be viewed as, and to effectively play the role of, a leading international center for livestock in developing countries?

Note: new empirical assessments of global livestock systems, building upon the recently released publication will be required.

ILRI staff who participated in the survey indicated that the current geographical focus of ILRI's work is largely appropriate, with over 60% indicating an increased focus on West Africa and roughly equal proportions favoring no change or increased engagement in Latin America.

How

There is consensus that ILRI's new strategy needs to be proactive in responding to the development agenda, whilst not implementing development itself there is a responsibility to ensure that research outputs lead to research outcomes that will impact on development challenges. The implication of this, using an impact pathway or outcome logic approach is that the "how" dimensions some of which incorporate their own research aspects, need to be integral to the research portfolio. Included here are partnerships, capacity building, communication, knowledge management, gender and innovation research.

First, there is a broader issue to tackle – to define clear boundaries regarding ILRI's role in research for development and to define the parameters for the balance between new knowledge generation, knowledge sharing and knowledge application. These are some of the issues that the institute has begun to address – and learn from – through engagement in projects such as EADD, IPMS....

ILRI staff who participated in the survey indicated that a balance between ILRI roles of leading and brokering research was important and that the institute should focus at the intersection of research and development.

Gender

A recent report has highlighted the importance of addressing women's roles in agriculture (FAO and Farming First, 2012) recognizing the immensely important roles of women in child nutrition and alleviating malnutrition, which can be partly addressed simply through better access to agricultural inputs and services. This is just one example of how having a strategy that is inclusive of gender issues can enhance outcomes and the overall impact. This is especially important in the livestock sector where women are often those who raise animals, process animal products and sell them. ILRI recently completed an overarching gender strategy for the institute, which provides the broad framework within which to implement gender balanced research.

Note: The crucial need now is to articulate clearly how gender will be intimately woven into ILRI's research portfolio.

Innovation research

Innovation research was a new component of ILRI's strategy to 2010, recognizing the importance of placing technologies in the wider context of research and development initiatives, connecting together a diversity of actors and promoting sustainable systems able to function beyond the life of individual projects. From a stand-alone theme, innovation research has become much more integral to ILRI's way of working in recent years, and is a prominent aspect of the work in CRP3.7. ILRI has also contributed innovation thinking in the systems CRPs. There are no one-size-fits all approaches to innovation, and considerable opportunities for learning and documenting processes. Innovation strategies are key to ensuring that research outputs are available, appropriate and used by the target users.

Note: ILRI needs to ensure that there is sufficient capacity within its research portfolio to deepen and systematize the integration of innovation approaches, whilst at the same time avoiding “recipe-like” solutions.

Partnerships

As a small institute with a global mandate, ILRI has always recognized the need to work with partners to undertake research. However, if research outputs are to be translated into research outcomes, then there are a number of partnership dimensions that need to be further explored. One helpful construct may be to think of partners in the categories of “implementers” and “enablers”. Implementers are those who take research results and use them on the ground – development agencies, NGOs, national research programmes as well as those who implement research, alongside or in a complementary fashion to ILRI itself. Enablers include policy makers at all levels, from community members through to national and regional (and international), it also encompasses men and women’s farmer groups, cooperatives and associations. Partners will increasingly be identified in the context of their roles in delivering outcomes articulated in CRPs, working closely with partner CG centres as well. ILRI’s 2008 partnerships strategy highlighted a number of opportunities to strengthen partnerships which can be addressed as the institute moves forward (<http://mahider.ilri.org/handle/10568/566/>).

Note: As described above in relation to ILRI’s clientele, the institute needs to be more precise and strategic about identifying partners and being clear about their roles and this needs to be formulated in relation to the output-outcome logic

Capacity development

Capacity development, of institutes and individuals through both graduate and group training efforts must be an integral part of ILRI’s portfolio, and support to research capacity among national partners is often seen as generating some of our most important outcomes. If research results are to be used, and continue to be used after the lifetime of projects, to lead to sustainable outcomes, then this cannot be overlooked, but does need to be appropriately structured and targeted according to the outcome pathway. This is a dimension where the needs and expectations needs of stakeholders need to be carefully factored in, budgeted for in terms of both time and resources. Empowering others to implement research, to advocate development interventions, to influence policy decisions and to introduce new technologies and approaches will ensure that research outputs contribute to the development agenda. Prioritizing and managing capacity development cannot be separated from the research agenda, but does need to have appropriate logistical support.

Note: ILRI needs a concerted capacity building agenda that links to research in relation to impact pathway and is articulated in relation to diverse clients.

Communication and knowledge management

ILRI communicates its research results through a diversity of conventional and new social media, and the institute's branding and public awareness have often been acclaimed. Moving forward there is a challenge to ensure that the level and type of investment in communicating and delivering knowledge outputs is appropriate to the context of the output-outcome-impact logic. This involves specifying the types of outputs and knowledge products that are needed, as well as the staffing profile to deliver these. Identifying and targeting the client needs for different products will vary both in relation to the outcome pathway as well as the development challenges.

Note: an approach that enables communication and knowledge management, with appropriate resources along with monitoring and learning to be specified as part of the impact pathway is important.

Human resources, finance and operational support

ILRI's research agenda needs strong underpinning operational support for vibrant, effective and efficient delivery of the anticipated products. Everyone in the institute needs to own the strategy and make it their business to deliver their part of the portfolio and the operational structure needs to function in delivering in the most effective and efficient way. This may require revisiting some of ILRI's operations, given that in many of its locations, the surrounding environment and infrastructure have changed considerably in the past decade. Finance, administration, HR, and operational support services need to be evaluated and streamlined along with the strategy revision to ensure they are aligned. Delivering on the research agenda and operating in the consortium of the CGIAR means ILRI needs to consider its corporate approach to service provision, including taking account of the rapid changes in private sector service provision in many of its locations, and how best to direct the institutes' resources to support the delivery of the research agenda.

Note: ensuring that the underpinning operations of ILRI are aligned with the research agenda will be fundamental.

Key issues to address to refine ILRI's strategy

Key issues noted in the text above are assembled in groups here, with some examples of processes to address these.

Systematic, empirical assessment

- This section to be further strengthened with deeper assessment, empirical evidence
- Further work is needed to agree on the framework; and to provide appropriate empirical assessment to determine priorities, and how this may be further used for example in identification of clients, how it may be used to further specify what is done where..
- New global assessments of livestock and different levels of poverty will be required
- New empirical assessments of global livestock systems, building upon the recently released publication will be required.

ILRI's Sustainable Livestock Futures team is well positioned to lead this assessment, having already recently been part of the team that revised the global livestock systems (Robinson et al., 2012) and partnering on a number of key global initiatives such as the Global Livestock Agenda, CRP2.

Clarifying the research agenda

In relation to priority research areas, there are a number of issues to be addressed. For some, processes are already in place and these are indicated below.

- ILRI's role in delivering the livestock expertise around broader areas in CRPs (and beyond) needs to be articulated, the institute's skill sets appropriately aligned and the research in relation to each dimension clarified.
 - o This is an integral part of the issues described below, as well as through ILRI's participation in all seven CRPs which presents the opportunity to clarify the expectations of ILRI's livestock focused contributions to these research programmes.
- Prioritizing issues to address in the biosciences area, in relation to ILRI's unique position (such as biosciences research, BecA, diverse locations in the developing world) is a key issue to address.
 - o An expert panel consultation is underway and is expected to lead to identification of key priority issues in the biosciences area, as well as potential next steps to further clarify ILRI's role in each of the identified areas.
- Modalities for working in value chains, engaging with development and private sectors; linking up and balancing research with monitoring and learning are important dimensions.
 - o ILRI's role in leading CRP3.7 will provide further input into this issue, as the operational plans are finalized, and partner engagement in countries is underway
 - o The opportunities presented by the LIVES project in Ethiopia, and EADD phase 2 will also be important here

- Research on global trade impacts on local livestock production systems could be a relatively new area of research for ILRI
 - o Will initially be explored in relation to ILRI's partners and roles in CRP2
- Using and positioning systems research in the global agenda; ensuring livestock is part of the equation and leading to on the ground solutions are among the challenges. Translating global climate change implications into realities for livestock systems will be important.
- There are opportunities for ILRI to be systematic in developing its research on livestock environment. In both intensifying and extensive systems, there are many players and ILRI needs to carefully craft its role.
 - o ILRI is participating in two of the three global consultations being conducted in relation to the Global Livestock Agenda (on resource use efficiency and restoring value to grasslands. These provide an opportunity to engage with key partners in identifying and prioritizing ILRI's roles
 - o ILRI is finalizing a position paper with regard to opportunities in the area of payments for ecosystem services, which will further inform discussions and prioritization around these issues
- Internal organization, and targeting of efforts has the potential for ILRI to contribute significantly in areas of zoonoses and food safety. Research on livestock and human nutrition requires a new approach.
 - o A key approach here is ILRI's strategy to deliver on its responsibilities in CRP4.3 which will require this kind of internal engagement
 - o More broadly, within CRP4, ILRI will be able to participate in global discussions that will better demarcate the institute's role in research on livestock and human nutrition
- There is an opportunity for ILRI to re-position itself with regard to research on livestock productivity. This needs to balance a number of dimensions such as the institute's role versus those of national programmes, ensuring that technology research is placed within broader development context and needs and that there are appropriate service and delivery mechanisms.
 - o This issue will be partly addressed as ILRI prioritizes research on technology elements according to its leadership of components on animal health, genetics and feeding in CRP3.7
 - o Further consultation with national stakeholders will be necessary, in CRP3.7 priority countries and in a number of countries where ILRI is based.

Partnership

- A systematic way of identifying appropriate partners with diverse roles, and clarifying strategic partners, collaborators and their roles will be essential.

- As described above in relation to ILRI's clientele, the institute needs to be more precise and strategic about identifying partners and being clear about their roles and this needs to be formulated in relation to the output-outcome logic
 - o Three dimensions of partnership will be addressed:
 - How to identify strategic partners and collaborators will be addressed through internal and external consultations placing ILRI's work within an impact pathway logic
 - Engagement with local, national, regional and global partners in the context of CRPs, of national and regional workshops and fora.
 - Ensuring partnership is also considered in relation to the framework and how different clients may prioritise within that.

Process outputs and impact pathway logic

- The crucial need now is to articulate clearly how gender will be intimately woven into ILRI's research portfolio.
- ILRI needs to ensure that there is sufficient capacity within its research portfolio to deepen and systematize the integration of innovation approaches, whilst at the same time avoiding "recipe-like" solutions.
- ILRI needs a concerted capacity building agenda that links to research in relation to impact pathway and is articulated in relation to diverse clients.
- An approach that enables communication and knowledge management, with appropriate resources along with monitoring and learning to be specified as part of the impact pathway is important.
 - o These issues need to be framed in the context of the logic of an impact pathway, and organizing research and such "process" priorities around this will require both internal and external consultation.

Human resources, finance and operational support

- Ensuring that the underpinning operations of ILRI are aligned with the research agenda will be fundamental.
 - o A systematic process for aligning ILRI's research operations, supporting HR, finance, will be undertaken in relation to ILRI's participation in the One Common System (OCS).

Annex 1. Framework from the ILRI-World Bank high level consultation

PG Domain	No growth	Growth	Problems of growth
Environment	Restore grasslands/ marginal lands	Efficiency/ sustainable intensification	Avoid pollution
Social	Protection of livelihoods	Income and employment	Sustained prosperity
Human Nutrition	Avoid starvation	Enrich diets	Avoid unhealthy diets
Animal Health	Keep animals alive/ keep production systems functional	Remove constraints to production, productivity, trade	Safe and healthy food, Functional trade

DRAFT NOT FOR