



CAPACITY DEVELOPMENT GAP ANALYSIS: NIGER

Introduction

In 2018, the Feed the Future Innovation Lab for Livestock Systems' Human and Institutional Capacity Development (HICD) team collaborated with research and teaching institutions in Niger to conduct a gap analysis to identify the training and organizational development needs that would lead to improved research and teaching capacity in livestock systems. The team identified several gap areas related to the human (individual), organizational, and environmental needs. This brief will provide a general outline of these gap areas and recommendations.



HICD assessment visit to Niger

Human Capacity Development

The HICD team in collaboration with the participating organizations identified several areas of human capacity development needs. The organizations suggest the development of a training program for each of the areas of need using a Train-the-Trainer model. Given the high level of need and the lack of manpower in Niger, training would need to take place every 2-3 months with a 3-5 day duration for each area. The areas of need include:

Research Design & Methods

- Data management software
- Grant writing and funding sources
- Molecular genetics techniques
- Research grants and funding databases
- Research protocol development
- Scientific writing

Extension

- Extension information
- Extension material development
- Dissemination methods

Teaching and Pedagogy

- Teaching methodology
- Active learning
- Teaching aids and instructional materials
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Technical Knowledge

- Agribusiness
- Animal feedstock management
- Animal parasitic diseases
- Animal pathology and immunology
- Artificial insemination technologies
- Clinical laboratory management
- Conservation of animal genetic resources
- Cross-breeding for milk production
- Current status of veterinary vaccines
- Differential diagnosis for tropical infectious diseases
- Emergency animal feed and feeding strategies for dry areas
- Epidemiology and disease diagnosis
- Establishing and strengthening rural organizations
- Export certification of animal products
- Forage production and crop nutrition
- Gender and development
- Genetics (conservation genetics, consanguinity management)
- Intensification of animal production
- Leadership skills
- Livestock production intensification
- Marketing development
- Molecular cauterization
- Monitoring and evaluation
- New technologies in animal breeding
- Processing technologies for dairy products
- Semen processing and artificial insemination of small ruminants
- Strategic planning process
- Technology transfer process, framework and methodology
- Valorization of indigenous animal breeds
- Value chains

Organizational Capacity Development

Information Systems:

Livestock researchers and teachers in Niger would benefit from access to a central information repository. Such a repository should include information on mitigation approaches and adaptation strategies for climate change effects on animal production and sustainability of livestock systems. A system to facilitate the dissemination of research findings, information sharing systems for research centers, and knowledge management software on sustainable forage is also needed.

Enabling Environment

Infrastructure and material resources:

The research institutions and universities lack good infrastructure and material resources, particularly laboratories and well-resourced experiment farms. This results in an inability to build up a relevant research portfolio and limited options for conveying practical skills to students. There is a shortage of useful equipment, and little knowledge about how to properly run a lab and maintain equipment, what the appropriate tests are, and how to read test results. These issues result in an inability to modernize the research focus. Shortcomings in laboratory and field infrastructure and materials directly impact on the ability of faculty to implement practical skills training. LABOCEL is the only producer and quality control inspector of animal vaccines in Niger but its lab infrastructure is below standard. For the most part, lab staff operate with the limited equipment that remains functional since the creation of LABOCEL in the mid-60s. The facilities require maintenance, repair and renovation; vaccine labels are prepared by hand; and storage is limited. LABOCEL's limitations have significant implications on animal health and, consequently, human health nationwide.

Library systems and information technology:

The capacity of library staff is limited and the library and information technology systems are inadequate. This pertains to infrastructure and materials issues such as lack of adequate computer facilities, high-speed internet, e-library tools, access to academic journals and distance education tools.

Recommendations

Human	<ul style="list-style-type: none"> • Improve the capacity of researchers and laboratory technicians to manage a laboratory, appropriately use laboratory equipment, and analyze results from laboratory tests. • Develop a Train-the-Trainer program with a series of trainings. Each training should be at least 3-5 days in length with sessions scheduled 2-3 months apart. • Conduct short-term training to improve research capacity with a particular focus on the “research package” including design, analysis, statistics, modeling, and interpretation; grant and scholarly writing; modern technologies and innovations. • Strengthen training for veterinary services auxiliary providers, including initial animal health care providers who are frequently the only animal health care providers in remote communities.
Org	<ul style="list-style-type: none"> • Develop an information sharing system for research centers. • Develop a new cadre of forage professionals, technicians and other staff.
Env	<ul style="list-style-type: none"> • Increase access to low-cost resources including assistance with accessing journals and expanding e-library resources

Participating Organizations

Organizations that participated in the HICD gap analysis in Burkina Faso include:

- **APSS:** The Association for the Promotion of Livestock in the Sahel & Savannah
- **CNS-EL:** The National Center for Specialization in Livestock
- **ESE:** The School of Livestock Supervisors in Maradi
- **ICRISAT:** International Crops Research Institute for the Semi-Arid Tropics
- **INRAN:** The National Institute of Agricultural Research of Niger
- **MAAUN:** Maryam Abacha American University of Niger
- **MEL-CMB:** The Livestock Multiplication Center
- **MEL-LABOCEL:** The Central Laboratory of Livestock
- The Regional Livestock Division of Maradi
- **UAM:** Abdou Moumouni University

The HICD team's primary recommendation:

To improve research capacity, organizations must address the linkages and gaps between (a) laboratory infrastructure, resourcing, and management; (b) the skills of the researcher in research design, biostatistics, methods, and analyses (inclusive of modeling); (c) policy and funding mechanisms at the state level; and (d) the research and extension connection.