

Reflection points for effective land-grant institutional structures in Nepal

Introduction and key messages

Stakeholders in Nepal have expressed strong interest in replicating aspects of land grant type universities in other countries. On November 26, 2018, the Agriculture and Forestry University (AFU) of Nepal hosted a workshop on *National Agriculture and Forestry Education Policy in Nepal*, which was attended by about 80 participants from within AFU as well as from other relevant organizations. The aim of the workshop was to discuss the agricultural research and extension system in Nepal, and to identify solutions to improve the current institutional structure, in particular with regard to the roles and mandate of AFU. The presentations and ensuing discussions led participants to identify some recommendations for reform, which are meant to represent starting points for discussion within the government of Nepal and other relevant actors. The recommendations, developed by the workshop participants, can be summarized as follows:

1. Identify and choose an improved land-grant model for AFU that meets the needs of the Nepali people, adapts to the decentralized structure of the Nepali form of government, and builds on what is already in place.
2. Implement the model by reforming the institutional arrangements between AFU and stakeholder institutions.
3. Develop the appropriate regulatory bodies to oversee research, teaching, and extension activities in Nepal.
4. Promote public-private partnerships to foster innovation and extension in agriculture, livestock, and forestry.

Context

Despite the crucial role of the agricultural sector in the country's economic development and people's livelihoods, agricultural performance is weak in Nepal, leading to widespread food insecurity and sensitivity to shocks. Strong agricultural infrastructures and commensurate amounts of resources are required to produce high quality research, extension, and a skilled workforce. The 2010 parliamentary act that established AFU as the first land-grant university in Nepal was a first step towards building the needed institutional structure. However, according to the workshop participants, challenges remain at two levels:

- The institutions in charge of agricultural research, extension, and education are under different ministries and functional linkages between them are weak. The National Agricultural Research Council (NARC) under the Ministry of Agriculture, is responsible for agricultural research. The Departments of Livestock Services (DLS) and of Agriculture (DOA), also under the Ministry of Agriculture, are in charge of agricultural extension. AFU, which operates under the Ministry of Education, is tasked with teaching.
- Agricultural research in Nepal is severely under-funded. Estimates suggest that only 0.4% of Nepal's annual budget is allocated for research in all areas. In terms of agricultural research specifically, the Ministry of Agriculture's allocation of funding for the NARC is less than 10% of its total budget. Furthermore, out of the higher education budget, 90% is allocated to Tribhuvan University, and the other 10% is allocated to the other nine public universities. Overall, agricultural research seems to be a low priority for decision makers.

Considering this challenging context, the presentations and discussion at the AFU workshop were meant to explore which options may exist to build a better system, with the purpose to ensure greater investment in agricultural research and innovation, stronger integration of research into academic programs, and the allocation of more adequate resources to develop human capacity throughout the agricultural system.

Key findings on comparisons between models

One way for Nepal to do better is to learn from systems in other countries. Thus, a focus of the workshop was to analyze the two dominant land grant systems in the world: the U.S. and the Netherlands models (embodied by Wageningen University). Their main features are compared in the table 1 below.

Table 1: Comparison of two dominant land-grant systems

	U.S. Land Grant Model	Netherlands Model
Guiding Principles	<ul style="list-style-type: none"> Complete integration of education, research and extension services, offer of practical agricultural education to youths, and research geared towards the interest of farmers and other stakeholders 	<ul style="list-style-type: none"> The legislative structures and policies that are in place guarantee independent research in combination with the higher education programs
Structure	<ul style="list-style-type: none"> State-owned land is provided to build a college or university for the agricultural and mechanical arts Multiple land-grant university institutions throughout the country 	<ul style="list-style-type: none"> Wageningen's teaching arm is merged with the various agriculture and livestock-related research centers Wageningen is the only public agricultural university in the Netherlands
Funding Mechanisms	<ul style="list-style-type: none"> Both models are funded by federal government Both models require significant inputs to support both the teaching and research arms 	
Notable Features	<ul style="list-style-type: none"> The universities under the land-grant model are the primary sources of policy input to the government on agricultural research, education, and extension Model successfully established in India, Pakistan, and the Philippines 	<ul style="list-style-type: none"> Extension services are provided by private companies: they need to meet the highest standards in order for farmers and ranchers to see the added value in purchasing them



Participants at the November 2018 workshop in Chitwan, Nepal. (credit: B. Williams)

Presentation of policy options

During the workshop, a number of policy options and action points were discussed. The underlying premise was that actions of some sort will have to be undertaken to further strengthen the connections between agricultural teaching, research, and extension in Nepal, with particular focus on the role and mandate of AFU. The discussions revolved around the following four themes:

1. Choice of the best agricultural land-grant institution model for Nepal

Each of the two main land-grant models presents benefits and challenges. Thus, policy-makers and stakeholders will have to carefully analyze the trade-offs between alternative policy options. Some of these pros and cons are exemplified in the table below.

Table 2: Benefits and challenges of land-grant models

	U.S. land-grant model	Netherlands model
Benefits	<ul style="list-style-type: none"> Wide and effective coverage through integrated Research-To-Extension 	<ul style="list-style-type: none"> High-quality Research and Extension within a lean administrative structure (one federal university and no affiliate provincial campuses)
Challenges	<ul style="list-style-type: none"> Operational complexity requiring the engagement of local provinces and governments in terms of priorities, funding, and operation High degree of federal and provincial government funding 	<ul style="list-style-type: none"> Reliance on potentially weak private sector for extension delivery Weaker research-extension linkages Low community involvement in affecting research priorities.

2. Restructure existing institutional arrangements

The restructuring of the institutional relationships between AFU, NARC, DLS and DOA, has been a subject for intense discussion. There are at least two possible configurations.

- One option would bring **agricultural Research-To-Extension under one umbrella**, by moving AFU from under the auspices of the Ministry of Education to the Ministry of Agriculture. As such, AFU and NARC would be required to collaborate to develop a comprehensive plan to combine research and education, inclusive of the activities of the research centers throughout Nepal. Similarly, the extension mandates of AFU, DOA, and DLS would be combined and aligned to ensure a direct connection between research and extension priorities and activities by utilizing the existing stations and farms throughout Nepal. This option could exhibit either *horizontal linkages*, with each institution remaining independent but closely cooperating with others, or *vertical linkages*, involving the combination of the institutions into one single institution with multiple arms.
- Another option would **keep AFU under the auspices of the Ministry of Education, but clearly define the policy and legal framework** dictating the roles, responsibilities, and funding of the various agencies, in particular detailing: how AFU is to collaborate with NARC to conduct research activities; and AFU's role in extension and how this fits in with the activities of DOA and DLS. This is not necessarily the easiest option, since restructuring without moving AFU under the Ministry of Agriculture will come with its own significant challenges.

Each of these choices presents trade-offs that must be taken into consideration (see table below).

Table 3: Benefits and challenges of restructuring institutions

	AFU under Ministry of Agriculture model	AFU under Ministry of Education, with new rules
Expected benefits	<ul style="list-style-type: none"> Coherent coordination of Research-To-Extension under one Ministry Ability to leverage on decentralized research centers and stations for integrating Research and Extension 	<ul style="list-style-type: none"> Potential greater policy feasibility (continuity with status-quo) Reduced administrative and legal requirements
Challenges	<ul style="list-style-type: none"> High financial and strategic requirements Resistance to change, with opposition from organizations that stand to lose the most 	<ul style="list-style-type: none"> Difficulties in collaboration across ministries and agencies Weak coordination between activities funded by separate ministries

3. Revise the articles of the Agriculture and Forestry University Act

While the Agriculture and Forestry University Act (2010) represents a legislative hallmark, some positions suggest the need for revising some articles in order to clarify the roles and responsibilities of AFU and ensure its ability to fulfill its mandate. More specifically, under such proposals, the operational relationship between AFU, DLS, DOA, and the government's recently created Agriculture Knowledge Centre would be more clearly defined, as well as the statutory autonomy of AFU in terms of management and operations. Moreover, the role of research at AFU would be expanded and clarified in relation to provincial agricultural institutions, research centers, and NARC.

4. Support public-private partnerships

Another area for policy discussion is how best to support public-private partnerships (PPPs) in order to bolster both research and extension systems. To some, the Nepali government could have a more active role. PPPs in agriculture serve as partners' shared mechanism for input, resources, market development, risk management, and technology development. Globally, emerging middle-income countries (Brazil, India, Colombia and Mexico) as well as the U.S. and China have implemented policies to encourage private sector participation in agricultural research and development. In Nepal, PPPs can be effective in promoting specialized academic programs and entrepreneurship, supporting the development of means of production, and enhancing commercial agriculture.

Concluding remarks

The mission of AFU as a land-grant institution is to improve the quality of life of Nepali people through agricultural education, research and extension. The workshop held at AFU on November 26, 2018 identified some gaps in the current institutional structure. The functional and legal separation, with the consequent division of tasks and responsibilities between AFU/Ministry of Education, DLS and DOA, and NARC, was regarded as a source of inefficiency and potentially leading to conflicts over resources, funding and priorities. The workshop invited a rethinking of current institutional arrangements and policy options, with the aim to establish a more effective land-grant university.

The policy options and recommendations in this document are a summary of the workshop presentations and ensuing discussions, and they reflect the perspectives and knowledge of the Nepali participants. Starting a process for evaluating alternative policy options is important, since there is no one-size-fits-all solution, and lessons from other countries are only applicable to some extent. Ultimately, it is up to Nepali policy-makers and agricultural stakeholders to decide what is the best option, taking into account existing opportunities and constraints, as well as political feasibility and political will. Whatever the choice, however, there must be accompanying well-defined laws, appropriate institutional arrangements, and substantial resource allocation.

Related resources

- Das, A.K., Pyakuryal, K., Sharma, M.D., and Upreti, B.R. (2019). Challenges in Establishing a Land-Grant University Model: Policy Paper on the Agriculture and Forestry University of Nepal (Ed., Williams, R.J.). Gainesville, FL, USA: Feed the Future Innovation Lab for Livestock Systems.
- Williams, R.J. (2018). AFU Human and Institutional Capacity Development Gap Analysis: Summary Report and Recommendations. Gainesville, FL, USA: Feed the Future Innovation Lab for Livestock Systems.

This work was funded in whole or part by the United States Agency for International Development (USAID) Bureau for Food Security under Agreement # AID-OAA-L-15-00003 as part of Feed the Future Innovation Lab for Livestock Systems. Any opinions, findings, conclusions, or recommendations expressed here are those of the authors alone.

The November 2018 workshop in Nepal, "National Agriculture and Forestry Education Policy in Nepal," was hosted by the Agriculture and Forestry University (AFU), Nepal with technical support from Feed the Future Innovation Lab for Livestock System at the University of Florida, USA, and this brief has been published in the USA with the authority and declaration of AFU.