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## **Trip Report: Nepal**

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**Purpose:**

The purpose of the visit was to introduce the innovATE project to Nepal's agricultural education and training institutions, analyze their current needs and supply, and then identify potential opportunities for strengthening the system.

**Sites Visited:**

- The Agricultural and Forestry University at Rampur, Nepal (AFU)
- The Nepal Poly-technique Institute at Chitwan (NPI)
- The International Development Enterprise (iDE)
- The Centre for Environmental Policy, Research, Extension and Development (CEAPRED)
- The Nepal Agriculture Research Council (NARC)
- The Himalayan College of Agriculture Sciences and Technology (HICAST)
- The Department of Agriculture (DOA).
- United States Agency of International Development (USAID)-Nepal

**Description of Activities:**

The team conducted formal (and informal) discussions, focus group interviews, and semi-structured interviews with representatives and officials from educational and training institutions, governmental- and non-governmental organizations, and Nepal USAID. The following findings are presented from each institution visited during the trip. The findings are summarized and organized to give i) background to and current status of the institution, ii) critical challenges facing each institution, and iii) opportunities for addressing these challenges.

***Agricultural and Forestry University (AFU)***

The Agricultural and Forestry University (AFU) is the only public agricultural university in Nepal. It offers higher educational degree programs in agricultural science, forestry and veterinary sciences. After formally separating from Tribhuvan University, the Institute of Agriculture and Animal Sciences (IAAS) and its affiliated campuses merged with the Institute of Forestry (IOF) to create AFU in 2010. The intent of merging these institutions was to create a robust agricultural education and training system in Nepal. As an autonomous university, AFU is undergoing many structural changes as a newly formed university with ten departments.

AFU faces several challenges, including faculty member retention, limited resources for instruction, an inadequate library with an insufficient number of books and outdated educational materials, a need for curriculum refining, low teacher salaries, lack of motivation for teaching, and poor infrastructure and facilities. Additionally, many students go abroad for higher education each year and only a low percentage of them return to Nepal to pursue a career. Although AFU is established on the United States' land-grant model, its links between formal AET and any extension component might be viewed as non-existent.

AFU presents several opportunities to improve the quality of its agriculture education and training program. After examining the classroom and lab conditions at Rampur campus, it can be concluded that AFU needs assistance in developing infrastructure and improving facilities for students and faculty members. For example, AFU's Rampur campus has recently started offering graduate and undergraduate level courses in fishery sciences. However, it has no specific lab or classroom facilities and must use those in the animal science department, while the existing labs lack basic facilities and modern equipment.

Officials at AFU's Rampur campus also indicated that they intend to open two new programs in the coming years in the fields of biotechnology and agri-business management. From our brief discussion with the students at AFU, we perceived that engineering and medicine are still the most preferred career options for students. However, students are increasingly choosing programs in agriculture and allied sciences as they rank third in preferred career options for new graduates. Governmental- and non-governmental organizations are the top recruiter for students at AFU.

### ***Nepal Poly-technique Institute***

The Nepal Poly-technique Institute (NPI) consists of three faculties and offers degree programs in agricultural science, veterinary science, engineering, and medicine. It is affiliated with Purbanchal University for its bachelors programs. In addition to bachelors programs, Nepal Poly-technique Institute also offers short-term programs aiming to produce a semi-skilled workforce of entrepreneurs, technicians and extension workers. Nepal Poly-technique Institute collaborates with many national and international organizations and has been involved in several agricultural and rural developmental projects. However, Nepal Poly-technique Institute has no formal collaborations with AFU. Indicating the agriculture sector's workforce demand, the Nepal Poly-technique Institute's officials claimed that technicians and agricultural graduates are easily employed upon graduation.

There are several challenges facing NPI. The Institute acknowledges that there is a great need for grass root level and mid-level technicians and workers. The officials at the Institute also expressed the challenge of poor lab facilities, poor infrastructure, and the lack of student and teacher exchange and exposure programs. In addition, there is a brain-drain effect, with approximately a quarter of the Institute's agricultural graduates with the highest academic credentials going abroad for higher studies.

One opportunity to address capacity building in all three areas that NPI is mandated to address – teaching, research, and services – exists through further engagement with the private sector. Currently, the government is the primary recruiter for NPI graduates; however the private sector is emerging as a major recruiter. Students are increasingly interested in joining the private sector due to its favorable benefits and working conditions. NPI is establishing relationships with the private sector through financial support to develop quality educational programs. In addition, graduates with entrepreneurial interests receive financial support from banks to fund their projects. Another opportunity is mobile training: Nepal Poly-technique Institute has been involved in community level training activities mainly through mobile training, where groups of professionals or experts travel to farms to train the farmers. Recruitment of the farmers for the educational training program is carried out with the help of cooperatives. Cooperatives play a major role in connecting farmers to educational institutions.

### ***iDE Nepal (International Development Enterprise)***

iDE is a Colorado based multinational NGO, primarily involved in implementing projects in developing countries such as Nepal. Their Nepal office is located in Kathmandu. iDE has received recognitions for its interventions in implementing micro irrigation programs in Southwest Asian countries. iDE Nepal offers a wide range of programs in the areas of food security, horticulture, micro irrigation, and Integrated Pest Management (IPM). Most of these developmental projects are funded through USAID and the European Union. iDE Nepal promotes the commercialization of agriculture in rural communities through the privatization and

mobilization of collection centers managed by smallholders and by establishing agricultural input suppliers. Crop collection centers are provided with cropping calendars that help IPM programs and with integrated farming cereals and other required foods to fulfill food security. This network of farmers and input suppliers help to introduce various technologies. iDE Nepal is also involved in water management through a community water system project across Nepal.

iDE Nepal faces several challenges in providing training for farmers who participate in iDE programs. iDE Nepal hires facilitators who have the SSLC (secondary school learning certificate) to work within the business community. These facilitators sell inputs to farmers and provide incentives to the program participants. However, these facilitators lack the capacity and soft skills to work at the community level. iDE has a need for facilitators and other employees who have business planning, organizational and assessment skills, which are needed to support programming and to provide appropriate training for farmers.

Opportunities exist for iDE to build the capacity of participants in their programs and in terms of both hard and soft skills. By supporting training for facilitators to improve skill sets, iDE can train women and young farmers to carry out business planning for crop production and other activities. Business planning skills will enable farmers to increase profit, which will contribute to the transformation of subsistence systems into market-oriented agricultural systems. By focusing on building the capacity of input suppliers and facilitators, iDE also has an opportunity to greatly expand the impact of their programs by encouraging facilitators to provide training to farmers and program participants on an ongoing basis.

### ***Centre for Environmental Policy, Research, Extension and Development (CEAPRED)***

CEAPRED is one of the largest NGOs working in agricultural development in Nepal. CEAPRED is also a partner of the Feed the Future Initiative. Since its establishment in 1991, CEAPRED has undertaken 75 projects in 60 districts of Nepal. Currently, CEAPRED serves people in 38 districts of Nepal through its seven agriculture related programs. The target beneficiaries of these programs are mainly small-scale farmers, and women. The main focus areas of CEAPRED are poverty reduction and livelihood enhancement, sustainable ecosystem and environmental management, and action and policy research. The majority of the staff at CEAPRED has degrees in agriculture and was trained in Nepal. CEAPRED invests nearly 50-60% of its resources into training program participants. Cooperatives act as the center of community level training and are the key stakeholders in CEAPRED's training programs.

Private sector agencies and NGOs like CEAPRED play a major role in offering training services for farmers and others in the agricultural value chain. However, the current higher education system is not consistent with the need for a diverse training system, and it is a challenge for CEAPRED to find new employees with appropriate skills. Senior management staffs at CEAPRED act as mentors or master trainers to the newly recruited graduates in order to develop capacity. But the current agricultural education system in Nepal does not efficiently develop or foster entrepreneurial skills in students. Agricultural students are more inclined to work for governmental and private organizations rather than become entrepreneurs or innovators in the NGO sphere.

### ***Nepal Agriculture Research Council (NARC)***

The Nepal Agriculture Research Council (NARC) is the top research institute in Nepal. It conducts research as well as offers training in various disciplines. As an autonomous institute, NARC functions independently from DOA and has around 50 research stations across Nepal. Its

research activities mainly focus in the areas of crop development, socio-economic development, horticulture, animal husbandry and fishery. NARC currently pursues research areas in social equity and gender studies. NARC mainly recruits graduates with master's degrees but will recruit those with bachelor's degrees for technical officer positions. With support from international research institutes, NARC provides in-service training for its research scientists. In addition, NARC provides short- and long-term academic programs to its research scientists at affiliated institutions.

There are several challenges identified at NARC. Although scientists from NARC assist the Department of Agriculture and the Department of Livestock Services with training activities, there is a lack of coordination between DOA and NARC. NARC identifies the importance of trilateral coordination among teaching, research and training activities. A major concern for NARC is the insufficient number of scientists to carry out research activities and the retention of existing scientists. Generally, scientists prefer government jobs. Additionally, the majority of agricultural graduates lack basic skills and capacity to engage in research activities. Agricultural graduates at the higher educational institutions should be provided with trainings to develop research skills, possibly through internships.

### ***Himalayan College of Agriculture Sciences and Technology (HICAST)***

The Himalayan College of Agriculture Sciences and Technology (HICAST) is a private educational institute affiliated with Purbanchal University. HICAST, located at the center of Kathmandu, offers bachelor degree programs in agriculture (B.Sc. with honors) and veterinary sciences (B. VSc.), and master degree programs in dairy technology, meat technology, and agribusiness management (ABM). Currently, HICAST has 450 students representing 69 districts of Nepal and the majority of students are from farming backgrounds. HICAST has a total of 5 and 8 full-time faculty in the agriculture and veterinary science programs, respectively. HICAST also has faculty working on a contractual basis. Nearly 25% of the total students prefer to get jobs in government or go abroad for higher studies after graduating from HICAST. Around 10% of the total students prefer to become entrepreneurs, with the remaining students opting for private and NGO jobs. Student tuition and fees are HICAST's major funding sources. HICAST publishes the *Nepalese Journal of Agriculture* and students in bachelor degree programs are required to write thesis during their last semester of their degree program.

Opportunities exist to expand and strengthen HICAST curricula offerings, given that employment opportunity, family support, and individual backgrounds are the key motivating factors for students to enroll in agricultural science and allied programs. The institution also plans to revise its educational program curricula every five years, which will allow educational programs to evolve with the agricultural sector in Nepal. In addition, over the next 5 years HICAST plans to invest in infrastructure and human resource development, recruit more faculty members, promote its master degree programs, improve the quality of its education, and engage in collaborations with foreign universities for curriculum development and capacity building.

### ***Department of Agriculture (DOA)***

The Department of Agriculture (DOA) operates as the primary training service provider in five regional offices across Nepal and 75 district level offices. The DOA has in total 11 directorates that supervise all activities within their respective area. These respective areas include agricultural training, horticulture, fisheries and vegetables, plant protection, soil, and marketing. A bachelor's degree is required to serve in a class III or class II officer position in the

DOA. The directorate of agricultural training offers pre-service training as an orientation and in-service training for agricultural officers. Class III officers receive 35 days of in-service training in order to be promoted to class II level. Staff promotion within the DOA is based on a marks system in which staff members with a master's degree and completed in-service training will receive additional marks counting towards promotion. In addition to orientations and in-service training, directorates also conduct topic- and discipline-specific training for its staff. In order to minimize overlap within these trainings and to increase communication among directorates, DOA plans to channel all training for directorates through the directorate of agricultural training.

One challenge for the DOA is evaluating the efficacy of pre- and in-service trainings. The DOA conducts evaluations using pre- and post-test methods for training programs. In general, the evaluation process does not include follow-up evaluations, which assess program participants' subsequent practice change as a result of program participation. The decreased emphasis on follow-up evaluations for training programs might be due to the lack of policy level requirements to follow-up and due to lack of government-allocated resources to carry out follow-up evaluations. In addition, both the DOA and NARC acknowledge the absence of coordination between personnel. Other challenges to DOA recruitment include labor migration and changing gender roles. Male youth migration to urban areas and other countries for better income opportunities has become a major issue for Nepal's agriculture. It has resulted in a labor shortage for agricultural jobs as well as exerted pressure on the female labor force. As a result, female family member/s or old male family member/s now increasingly manage the farms. Women are reportedly the majority of participants in training programs but time is a major constraint for most of them to fully implement what they learned in the program.

Opportunities to increase youth participation in agriculture and agricultural occupations exist. In response to the growing concerns over male youth migration, the Nepalese government has initiated plans to provide seed money to youth to start commercial agricultural enterprises. There are several other government sponsored plans such as the National Agriculture and Development Funds (NADF) and PACT that provide financial assistance to youths, NGOs, and farmer organizations on a competitive basis. It has been perceived that an increasing number of youth are showing interest to utilize these programs.

### **Suggestions and Recommendations:**

The United States Agency for International Development (USAID) Nepal is concerned with providing income security to Nepalese youth, particularly those returning back to Nepal from Gulf countries. Youth, who migrated to Gulf countries for better income opportunities and have returned back to Nepal with their savings, find it difficult to invest funds and ensure a sustainable income source. The lack of entrepreneurial and financial management skills, among others, is a major challenge that Nepalese youth face to judiciously invest their savings. innovATE can offer entrepreneurship development programs to these youth about proper financial investment and business management.

Following are the recommendations made by the data collection team, based on the preliminary findings, to build capacity of the agricultural education and training system in Nepal:

- Assist faculty members of AFU in building capacity and curriculum design, revitalization, and revision. This may include short-term training programs for faculty members on instructional methods and curricula revision.

- Share expertise on curriculum development and design with AFU (e.g. for the proposed programs on agri-business management and biotechnology) and with HICAST (for its recently introduced ABM program)
- Establish a separate training unit at AFU to strengthen the link between the university and communities through training. This step may include training and skill (soft and hard skills) development of training professionals.
- Develop quality infrastructure for classrooms and labs, as well as improve the libraries of AFU Rampur.
- Promote student and faculty exchange programs in educational institutions like AFU, Nepal Poly-technique Institute and HICAST as a part of knowledge transfer.
- Collaborate with iDE Nepal to assist them with developing business model planning skills that can be transferred to multiple institutions operating in the AET space.
- Design and offer capacity building training programs for community level workers in collaboration with CEAPRED.
- Assist the DOA in building capacity to carry out program and training evaluations, specifically assessing mid-and long-term program impacts.

## List of Contacts Made

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<b>Date</b>	<b>Time</b>	<b>Activities</b>
Day 1, Nov 30 <sup>th</sup>	9:05 AM	Arrival at Kathmandu International Airport and settling in at Hotel Summit
Day 2, Dec 1 <sup>st</sup>	9:30 -10:00 AM	Hotel pick-up and heading toward airport
	11: 30 AM– 12:00 PM	Fly to Chitwan (AFU)
	12:30 PM-1:30 PM	Meeting with AFU officials
	1:30PM-2:30 PM	Lunch
	2:30PM-3:30PM	Focus group discussion with AFU faculties
	3:30 PM -4:30 PM	Focus group discussion with Students at AFU
	4:30 PM-5:00 PM	Meeting officials from Nepal Poly-technique Institute
	5:30 PM – 8:30 PM	Travel back to Kathmandu (by road)
Day 3, Dec 2 <sup>nd</sup>	9:30 AM	Hotel Pick-up
	10:00 AM-11:00 AM	Meeting at International Development Enterprises (iDE)
	11:00 AM -12:30 PM	Open so far
	12:30 PM-1:30 PM	Lunch
	2:00 PM- 3:00 PM	Meeting at CEAPRED
	3:00 PM -5:00 PM	Meeting with NARC officials
	5:30PM	Back to the hotel
Day 4, Dec 3 <sup>rd</sup>	9:30 AM	Hotel Pick-up
	10:00 AM-11:00 AM	Meeting with HICAST officials
	11:00 AM -12:30 PM	Meeting with DOA officials
	12:30 PM-1:30 PM	Lunch
	2:00 PM- 3:00 PM	Meeting with USAID
Day 5, Dec 4 <sup>th</sup>	10:00 AM	Departure from Hotel Summit
Evan Meyer	Agriculture Officer, USAID/Nepal	emeyer@usaid.gov

### Trip Log