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**Institutional Capacity and Training Needs Assessment  
for the *Feed the Future* Initiative in Nepal**

**End of Trip Report  
(July 11-24, 2010)**

By

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## Abbreviations and Acronyms

AEC	Agro Enterprise Center (FNCCI, Nepal)
ANSAB	Asia Network of Sustainable Agriculture and Bioresources
CBS	Central Bureau of Statistics
CIMMYT	International Maize and Wheat Improvement Center
CIPF	Consumer Interest Protection Forum
DADO	District Agriculture Development Office
DfID	United Kingdom Department for International Development
DOA	Department of Agriculture
ECOSOC	Economic and Social Council of the United Nations
FAO	United Nations Food and Agriculture Organization
FNCCI	Federation of Nepalese Chambers of Commerce and Industry
FORWARD	Forum for Rural Welfare and Agricultural Reform for Development
FS III	Food Security III Cooperative Agreement
FSG	Food Security Group (Michigan State University)
FtF	Feed the Future
GDO	USAID/Nepal General Development Office
GEF	Global Environment Facility
GON	Government of Nepal
HED	Higher Education for Development
GTZ	Deutsche Gesellschaft für Technische Zusammenarbeit — German Technical Cooperation Agency
IAAS	Institute of Agriculture and Animal Science
ICIMOD	International Centre for Integrated Mountain Development
IFAD	International Fund for Agricultural Development
IFPRI	International Food Policy Research Institute
INGO	International Non-Governmental Organization
IOF	Institute of Forestry
IRRI	International Rice Research Institute
JT	Junior Technicians
JTA	Junior Technical Assistants
KU	Kathmandu University
LDC	Less Developed Country
MoAC	Ministry of Agriculture and Cooperatives
MoF	Ministry of Finance
MSU	Michigan State University
NAGA	Nutrition Assessment and Gap Analysis
NARC	Nepal Agriculture Research Council
NASP	Nepal Agriculture Strategy Plan
NDC	National Development Council
NDHS	Nepal Demographic Health Survey
NDRI	Nepal Development Research Institute
NFC	Nepal Food Corporation
NGO	Non-Governmental Organization
NHSP	National Health Sector Plan

NPAN	Nepal National Plan for Action on Nutrition
NPC	National Planning Commission
NTFP	Non-Timber Forest Products
RARS-L	Regional Agricultural Research Station, Lumle
RRN	Rural Reconstruction Nepal
SAAPE	South Asia Alliance for Poverty Eradication
SIDA	Swedish International Development Agency
TU	Tribhuvan University, Nepal
UNICEF	United Nations Children Fund
USAID	U.S. Agency for International Development
WB	World Bank
WFP	United Nations World Food Programme

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We appreciate the cooperation and support from many organizations and individuals. We visited teaching and research and extension facilities, observed local markets, met with several NGOs and their staff, and read reports on food security.

We have summarized all discussions and observations about Nepal's institutional capacity for food security. We have presented them in the spirit of identifying areas that deserve additional investment and support from the Government of Nepal and from donors. Although many people have contributed in various ways, all errors are ours and the assessments presented do not necessarily reflect those of the supporting organizations.

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### **Overview**

Michigan State University's Food Security Group researchers have been carrying out integrated programs of applied research, capacity building, and policy dialogue focused on food security—largely in Africa – since the early 1980s. The centerpiece of this work has been three ten-year cooperative agreements funded by USAID central bureaus and country or regional missions and managed by the Department of Agricultural, Food, and Resource Economics. The current Food Security III (FS III) Cooperative Agreement<sup>1</sup> runs through September 2012. USAID/EGAT/AG has given FS III a global mandate, and has encouraged MSU to expand its activities into Asia and Latin America, and to mobilize expertise in areas such as community development, nutrition, and climate change, in order to provide broader support for the Feed the Future Initiative.

In this context, and since Nepal is a Feed the Future focus country, Michigan State University professors Crawford and Suvedi visited Nepal during July 11-24, 2010, to explore the potential for MSU/FS III activities in support of USAID/Nepal's planned programs. The trip was funded under the FS III Leader Award. This report is prepared based on meetings and discussions with officials within the Government of Nepal, university administrators and faculty members, and representatives of both international and national non-governmental organizations.

The remainder of the report covers the specific objectives of the trip (page 2), the main section on institutional capacity assessment for food security at key organizations in Nepal (pages 3-22), a summary of conclusions from the institutional capacity assessment (pages 22-24), and areas of potential support through Food Security III (pages 24-26). Appendix A (page 27) contains the details of the trip itinerary, and Appendix B (pages 28-34) the list of key individuals consulted.

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<sup>1</sup> The Food Security III Cooperative Agreement between Michigan State University and the United States Agency for International Development is a Leader with Associates award (GDG-A-00-02-00021-00). The Leader award is funded and managed by the Bureau for Economic Growth, Agriculture and Trade, Office of Agriculture. Associate awards to FS III are currently funded by the Africa Bureau Office of Sustainable Development, and by USAID missions in Mali, Mozambique, and Zambia.

## Specific Objectives of the Trip

Specific objectives of the trip by the MSU team were to meet with Government of Nepal (GON) officials and USAID/Nepal staff:

- to brief them on the Food Security III cooperative agreement, past and current food security projects conducted under FS III, and plans for future activities;
- to explore their possible interest in engaging FS III, through an associate award from USAID/Nepal, to collaborate with them on planned food security programs in Nepal;
- at the request of USAID/Nepal, to conduct an initial food security-related institutional capacity and training needs assessment of the Ministry of Agriculture and Cooperatives, and the National Planning Commission; and
- to provide a trip report summarizing the findings of the visit and outlining a draft scope of work for any follow-up work that may be needed to complete the institutional capacity assessment.

The MSU team met with key officials in Kathmandu at the beginning and end of the trip, with four days of field visits to Pokhara and Chitwan and neighboring areas in the middle (see Appendix A for details). The MSU team met with representatives of the following organizations (see Appendix B for details):

- In/around Kathmandu:
  - Ministry of Agriculture and Cooperatives, including Planning Division and Department of Agriculture
  - National Planning Commission
  - Nepal Agricultural Research Council
  - FAO Country Representative to Nepal
  - World Food Program, Nepal
  - Kathmandu University, Dhulikhel
  - Central Bureau of Statistics, Nepal
  - Crop research/extension programs being implemented by International Rice Research Institute (IRRI), International Maize and Wheat Improvement Center (CIMMYT), and Cereal Systems Initiative for South Asia (CSISA)
  - National Development Research Institute (NDRI)
  - Rural Reconstruction Nepal (RRN)
  - International Centre for Integrated Mountain Development (ICIMOD)
  - Agro-Enterprise Center, Federation of Nepalese Chambers of Commerce and Industries
  - Asia Network of Sustainable Agriculture and Bioresources (ANSAB)
- In/around Pokhara:
  - Institute of Forestry (including Virginia Tech-led Center of Excellence in Forestry)
  - Regional Agricultural Research Station, Lumle
  - Agricultural Education in the Village project in Hamsapur, Kaski District
- In/around Chitwan:
  - Institute of Agriculture and Animal Science, Rampur
  - Agriculture Development Office, Chitwan
  - FORWARD Nepal

## **Institutional Capacity Assessment for Food Security at Key Organizations in Nepal**

Institutional capacity and training needs assessment is an essential step in planning the foundational investments in food security programs. Towards this goal, an analysis of the strengths and weaknesses of institutions in agriculture and other sectors that will participate in Nepal's Feed the Future program or have an impact on its results was conducted. In general terms, our assessment took into account the elements of institutional capacity identified in the GON's Nepal Global Hunger and Food Security Initiative Implementation Plan:<sup>2</sup> technical capacity (i.e., ability to provide tools/services to beneficiaries), implementation capacity (i.e., ability to plan, implement, and evaluate programs and policies), human resources (i.e., current and future potential for adequate staffing with appropriate training), and coordination (i.e., ability of the organizations to manage cooperation, coordination and transparency) functions.

### **Caveats**

Readers of the following section of the report should bear in mind the following caveats. First, observations about institutional capacity that are made below are intended to be constructive. They are made in the spirit of identifying areas that deserve additional investment and support from the GON and from donors. Second, the individuals whom the MSU team had the opportunity and pleasure to meet were impressive in their general level of training (many at the post-graduate level), and in their dedication and commitment to furthering agricultural development and food security in Nepal, often by working with limited resources in challenging circumstances. Third, the observations below are based on a very limited stay in-country.

## **Government of Nepal**

### **National Planning Commission (NPC):**

The National Planning Commission (NPC), chaired by the Prime Minister of Nepal, is the advisory body for formulating medium- and long-term development plans and policies of the country under the direction of the National Development Council (NDC). It identifies needs and allocates resources for economic development and works as the central agency for monitoring and evaluation of development plans, policies and programs.

On July 22, 2010, the GON established the National Food Security Steering Committee. The Committee is chaired by the Vice-Chairman of the NPC. Members of the Steering Committee include secretaries of select ministries and representatives of donor organizations such as USAID and the World Bank. The Joint-Secretary for Planning in the Ministry of Agriculture serves as member-secretary. Under the National Food Security Steering Committee, three sub-committees will take responsibility for agricultural production, food supply, and nutrition. These sub-committees, with help from various technical committees, are charged with preparing the National Food Security and Nutrition Strategy for Nepal, which will address issues such as: What is the food that Nepal would like to secure? Should all districts/areas be made food self-sufficient? What model should Nepal use to increase food production? As food self-sufficiency

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<sup>2</sup> GON, Nepal Global Hunger and Food Security Initiative Implementation Plan, November, 2009.

may not be possible for some districts due to topographic constraints to agriculture and infrastructure development, what kind of income generation activities should be promoted to assure food security for the people in the area?

### **Capacity Assessment of NPC:**

- The leadership at NPC recognizes the need for empirically based food security policy. However, the NPC itself does not have adequate capacity, either in terms of data or personnel, to carry out its own policy analysis. Instead, the NPC relies on analysis carried out by donor-supported consultants and by INGOs and NGOs such as NO-FRILLS Development Consultancy, and the Centre for Environmental and Agricultural Policy Research and Extension Development (CEAPRED).
- There is on-going debate on the availability and quality of data related to food security. The National Planning Commission makes extensive use of data from the Central Bureau of Statistics (CBS) for planning and policy formulation purposes. The Ministry of Agriculture and Cooperatives collects crop yield and animal production data at the district level. Often, data are limited to major food crop production estimates in food deficit areas/localities. Table 4.2 in the NPC/FAO report on *Food Security Policies, Programmes and Institutional Arrangements* contains an extensive list of types of available statistics, including source, frequency of collection, and current status.<sup>3</sup>
- Limited training in policy analysis, and frequent turnover, are additional problems for the NPC. The honorable members of NPC are usually senior or retired faculty from university, directors of research and development organizations, and retired civil servants. Many do not have a background in food and agriculture, or training in policy analysis. The composition of NPC has been changing frequently in response to changes in the Cabinet of the GON, which makes it difficult to retain and build on experience gained by NPC members. Similar problems affect the civil service officials under the NPC secretariat, Ministry of Finance (MoF), and Ministry of Agriculture and Cooperatives (MoAC) who are actively engaged in the formulation of medium- and long-term plans including food security plans.
- Overall, national development plans are based more on expert judgments than empirical information. Research and data analysis capacity is weak. The government, including CBS, NPC, and MoAC, will need to develop the capacity of its staff to synthesize and analyze food security-related data for planning and policy formulation. Capacity building may include degree training for mid-career personnel, short courses, mentoring and study tours or exposure visits.

### **Other Observations:**

- There is also a need to develop a national land use plan, and a need to change land ownership policies.
- Categorization of land based on level of rice production is not sufficient.
- There are circumstances where private sector, non-governmental organizations, and cooperatives and commodity production groups such as coffee, dairy, tea, and ginger cooperatives, can provide more effective support for agricultural development.

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<sup>3</sup> GON/NPC/FAO. 2008. *Food Security Policies, Programmes and Institutional Arrangements: Main Report*. Kathmandu, Nepal, August 24.



**Ministry of Agriculture and Cooperatives (MoAC):**

The Ministry is the central apex body of the Government of Nepal responsible for the policy, planning and administration of all agricultural development programs. It is a complex organization with five divisions, two centers, one research and development council, four departments, autonomous bodies of research, four corporations and a few development committees and boards.

Nepal's past food security efforts were limited to food distribution in food deficit areas, using a disaster relief approach. At present the Government of Nepal has recognized food security as needing a broader approach and long-term capacity development. The MoAC is currently developing the National Food and Nutrition Security Plan, which will include identification of the policy gaps that need to be addressed to promote sustainable food production and meet the nutritional needs of Nepal's people.

The leadership of the planning unit of the MoAC expressed the view that food production should be increased in smaller units or production blocks rather than promoting large-scale farms. A large number of small farmers should be considered as an asset for the country. There is a need to increase their overall production through irrigation, use of improved breeds of livestock and seed varieties, adoption of resilient and sustainable farming methods, maintenance of diversified, integrated and biomass-rich farms, and control of pests and diseases. This model of agricultural production can better withstand variability of weather conditions, produce more diversified food for improved nutrition, and sustain production over a longer time than large-scale commercial agriculture. It was emphasized that success in achieving these objectives would require that agricultural research receive a higher priority in GON investment programs, and that improvements in the seed supply system were especially critical.

**Capacity Assessment of MoAC:**

- The Planning Division under MoAC has been tasked with coordinating the Food and Nutrition Security Plan and GON has proposed that this Division provide leadership for working with USAID to plan activities related to the FtF initiative in Nepal. We were told that the unit might lose its senior staff through retirement. Therefore, it is essential that a professional team be identified and trained to provide continuity in leadership to coordinate activities within the food security initiative.
- The planning unit needs additional staffing in order to develop programs and policies on food and nutrition security, monitor implementation, and evaluate impacts. The planning unit needs to strengthen its capacity for data gathering, monitoring and evaluation, and research and policy development. Short courses and study tours and long-term training are needed to strengthen this unit.
- Regarding data availability, the Department of Livestock has nearly 1,000 rural centers which support a well-established disease information system.

**Department of Agriculture (DOA):**

The Department of Agriculture (DOA) is an integral part of the Ministry of Agriculture and Cooperatives (MoAC), Nepal. The DOA bears overall responsibility for growth and development of agriculture sector. The overarching objective of this department has been to help

achieve food security and alleviate poverty by transforming agriculture through diversification and commercialization. The department has 378 field offices, including National Programs, Regional Directorates, and Farms/Centers, Labs, Quarantine Check Posts and District Agricultural Development offices. Technical and administrative staff comprise of 731 gazetted and 4,248 non-gazetted persons.

The leadership of DOA recognizes that food security is particularly critical in the Far-and Mid-western Regions of Nepal. It was suggested that a distinction be made between food insecurity and rice insecurity. Politicians and donor communities tend to equate rice insecurity with food insecurity. However, most districts of Nepal have the potential to be food secure if agricultural research and technology transfer focus on indigenous food crops (e.g., potato, buckwheat, millet and corn); on indigenous high-value crops (e.g., saffron, ginger, cardamom, tea and many other herbal crops); and on import-substitution crops or products (e.g., onion, citrus, fish, oil seed crops and poultry feed).

Quality seed production has been a challenge in Nepal. For example, about 80% of the vegetables are produced using hybrid seeds, all of which are imported. About 7% of the corn crop is hybrid. Yields of hybrid corn are significantly higher than yields of open-pollinated maize. However, Nepal has no capacity to produce hybrid seed. Hybrid corn seeds are imported from India and these seeds have not been reliable, as evidenced by the failure of winter maize in 2010 (there was no grain formation partly due to low temperatures during pollination). Another issue related to seed quality is certification and quality control of seeds (e.g., problems of false labeling such as Indian radish seed packages being labeled as seed coming from Nepal).

Nepal has decentralized the planning, implementation and evaluation of development programs. Accordingly, agricultural extension program is devolved. The District Agriculture Development Office is responsible for all agricultural development work at the district level but staff lack training on group processes and participatory program development. Therefore, there is a real need to develop the capacity at the district level. The district-level agriculture development officers and front-line extension workers (e.g., Junior Technicians and Junior Technical Assistants) need special training on program development and evaluation at the Village Development Committee (VDC) level.

#### **Capacity Assessment of DOA:**

- Agricultural research and extension received strong government and donor support during 1970-1990. However, both research and extension capacities have weakened due to lack of adequate funding during the past two decades.
- District Agricultural Development Offices seem to have adequate staff to implement food security programs. However, nutrition is not included in the current program and no staff support nutrition education. Therefore, capacity needs to be developed for programming on nutrition.
- There is a need to strengthen/enhance subject matter knowledge and skills especially in insect and disease control, postharvest losses, and crop management. Extension staff also lack skills in participatory program development and evaluation.
- Technical training is needed for Junior Technical Assistants (junior-level extension staff) working at the village and district sub-center levels.

**Nepal Agricultural Research Council (NARC):**

The Nepal Agricultural Research Council is the apex body for agricultural research in the country. It was established in 1991 as an autonomous organization under the Nepal Agricultural Research Council Act to conduct agricultural research within Nepal. NARC also assists the government in formulating agricultural policies and strategies based on results of qualitative studies and field research about different aspects of agriculture. Additional functions and responsibilities of NARC are to prioritize research studies to be conducted, provide research and consultancy services to the clients, coordinate, monitor and evaluate agricultural research activities, and document the research activities. Donor funds come to the NARC through the Ministry of Finance, not directly.

NARC's senior management identified several priorities for agricultural research to enhance food security: developing rice varieties that do well under changing climate conditions; minimizing postharvest losses; processing and packaging food; and developing minor crops (e.g., millet and buckwheat) and livestock (e.g., goats, sheep and yaks). There is an urgent need to develop the capacity to produce improved seeds, e.g., for both hybrid and open-pollinated maize and vegetables. This priority was emphasized in the recent 20-year plan that NARC prepared for the World Bank, along with the need to address the likely impacts of climate change through adaptation of rice varieties and use of traditional crops (millet, buckwheat) and livestock, which are expected to be less affected by climate change.

Nepal's investment in agricultural research is declining. Particularly, NARC funding has been decreasing since 2005. Most of the budget goes to salary, so there is very little funding to support research and capacity-building programs. NARC leadership noted that the NARC's budget is substantially less than the amount of the GON budget for farmer training and district development. While these are important priorities, adequate support for agricultural research is essential for addressing Nepal's food security challenges.

**Capacity Assessment of NARC:**

- NARC staff consists of approximately 250 scientists. Currently, 47 have Ph.D. degrees and 15 are on study leave. Most scientists are Masters degree holders. Although some scientists have completed their doctoral studies, they still need mentoring to improve their ability to analyze research data and prepare articles for publication in refereed journals.
- NARC's socio-economics capacity is weak. Ten years ago, socio-economists were posted to the regional research stations. Many were then sent for higher training, but none returned to Nepal. In 2007, NARC established a socio-economic research unit, but very few staff have been trained in economics. Two-three persons are currently in training and six were recruited in 2010. Overall, the members of this unit have limited skills and experience in conducting district and national level food and nutrition policy analysis and impact studies.
- A significant number of agricultural scientists have retired in the past 10 years or will be retiring within the next 3-5 years. NARC was able to hire 90 scientists this year, as against a reported 300 vacancies. The newly hired scientists, many of them M.S. degree holders from IAAS in Rampur, need training in research methods and policy analysis.

- Land and physical facilities are adequate to carry out research but operational funds are not adequate to cover, e.g., maintenance of facilities, stocking of lab supplies, field visits in connection with participatory research programs, and collaboration with CG centers such as CIMMYT and IRRI.
- NARC has proposed that its Central Research Farm at Khumaltar be developed as a “Deemed University of Agricultural Sciences” for research-only Ph.D. training.<sup>4</sup>
- NARC staff indicated that extension messages need to be updated.

### **Central Bureau of Statistics (CBS):**

The Central Bureau of Statistics, whose head office is in Kathmandu, is Nepal’s main agency for collecting, processing, compiling, publishing and disseminating statistical data, primarily based on census and large-scale sample surveys. CBS is organized in three divisions: Social Statistics, Economic Statistics, and Planning and Human Resources. CBS has a prominent role in developing and maintaining the statistical system and statistical standards for the country, and promotes collaborative research among members of the academic community, data producers, and users. The main objective of CBS is to provide data to the National Planning Commission and other Government agencies to use as the basis for formulating national plans and policies. It carries out the decennial population census, the agriculture census, the quinquennial census of manufacturing establishments, and living standards and labor force surveys, and conducts national accounts surveys as the basis for estimating quarterly Gross Domestic Product.

Specifically, the Central Bureau of Statistics conducts the following major surveys:

- National Population and Housing Census (scheduled for 2011)
- National Agriculture Census (using a large-scale sample, planned for 2012)
- Nepal Living Standard Survey (currently underway, for the third time)
- Nepal Demographic Health Survey (a multiple indicator cluster survey that focuses on women and children)

In general, CBS staff—consistent with their current mandate—do not carry out much analysis of the data that they collect, tabulate, and publish. An exception is the Poverty Trends Report that is based on small area estimates of poverty—at the district and subdistrict level—drawn from the National Living Standards Survey.

### **Capacity Assessment of CBS:**

- CBS staffing includes nearly 70 statisticians. Most are housed at the Central Office; a few are housed at offices within various government ministries. CBS has 33 Branch Offices throughout Nepal, with over 500 staff. A new building is being added to CBS headquarters, which will include a GIS lab and staff training facilities. Current facilities for data analysis are inadequate.
- Branch offices are in poor shape in terms of physical facilities, staff training, and technology support.

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<sup>4</sup> “Deemed university” is a term, originally developed in India, referring to high-quality institutes and universities who are given academic and financial autonomy and degree-granting status.

- Staff turnover is a problem due to lack of regular funding (most surveys are funded on a project-specific basis), and lack of opportunities for advancement despite the creation of the Nepal Statistics Service.
- Many senior statisticians have retired recently. Newly hired statisticians will need mentoring and additional training on sampling methods, applied statistical analysis, and report preparation. Coordination of food security-related data collection, monitoring, and reporting is also needed.
- CBS does not have the capacity (staff and budget) for additional survey work beyond what is currently planned. After the 2011 population census and the 2012 agricultural “census,” they would potentially be able to implement new surveys.
- It was noted that funds to support the 2011 population census have not yet been committed by the GON.

### **Regional Agricultural Research Station, Lumle (RARS-L):**

The Nepal Agricultural Research Council (NARC) manages the regional agricultural research station in Lumle to ensure food security-related research suitable to agro-climatic conditions in the western hills of Nepal. The station conducts adaptive field trials, crop demonstrations, and seed multiplication. Its major activities include quality seed production in collaboration with local farmers and training of extension professionals and farmers at the station.

Research scientists shared their views about how the hill districts of Nepal could achieve food security:

- They agreed that all hill districts of Nepal could be made food-self-sufficient. To do this, however, Nepal needs to change its agricultural development strategy. They stated that hill food production must focus on summer or rainy season crops rather than winter or dry season crops.
- Improved seed and fertilizer are key elements for increasing food production. Local availability of these inputs is essential, and farmers need assistance. One idea is to develop a revolving fund through a local farmers’ group or a cooperative in buying these inputs. NARC and the Department of Agriculture must collaborate in producing improved seed at the local village level and providing seed storage bins to farmers. This will reduce transport costs relative to production of seed at a central location.
- Rather than providing free food or food for work, farmers should be provided with bridge loans or warehouse receipts to buy food for their families until their seed is sold.
- Road development has opened markets and increased prices to farmers. Farmer-managed fruit and vegetable collection centers and cooperatives could be developed in all villages connected with roads. This will require new and additional training for research scientists and technicians about extension program development, group formation, communication and social mobilization skills.
- Problems have been observed with fertilizer subsidies, where some of the product is diverted and sold at higher prices, with the result that farmers do not benefit from the full subsidy.

### **Capacity Assessment of RARS-L:**

- MoAC's capacity to meet farmers' needs for agricultural inputs needs immediate improvement. Inadequate availability of improved seeds and breeds of livestock and late delivery of fertilizer are major issues and need systemic improvements.
- The Lumle Research Station has adequate human resources but inadequate operating funds. Operating funds should normally represent 50 percent of the budget, but currently make up only 30 percent
- The current number of research scientists (12) is adequate. However, refresher training for senior scientists would be useful.
- To support the seed production program, Research Station needs data collectors / crop management advisors at village level.
- Researchers stated that they had no access to scientific journals. We provided information on accessing journals through AGORA, for which NARC is an authorized user.

### **District Agriculture Development Office, Chitwan (DADO):**

Under the MoAC, the Department of Agriculture (DoA) has agricultural development offices in all 75 districts of Nepal. The major function of the district-level office is to provide agricultural extension services to farmers and agribusiness operators. Data on area cultivated, production, and yields are also collected and sent to the Regional Agricultural Directorate for transmission to the national level.

The district-level program, especially the agricultural extension program, is devolved from higher levels. Planning and budgeting is based on central guidance (from MoAC and DoA), district development plans, and budget ceilings. The office is headed by a District Agriculture Development Officer and supported by subject-matter specialists and production officers. Each district has agricultural sub-centers (Ilaka) staffed by agriculture production officers, Junior Technicians (JTs) and Junior Technical Assistants (JTAs). Wide variability in food security needs and potential exists within the district. Therefore, food security strategies should be tailored to local circumstances.

Investment priorities expressed by DADO staff included surface irrigation, increased availability of electricity to support irrigation, and improved supply of fertilizer. Problems noted included the difficulty for Nepal's farmers to compete with India's subsidized agriculture, and the loss of some agricultural land to residential use by those wanting to live near roads and towns.

### **Capacity Assessment of DADO:**

- Data collection on area cultivated, crop production and yields needs improvement. Currently, field staff collect data through discussions with the leaders of Chitwan district's some 603 farmers' groups. These discussions focus on perceptions of this year's area and production relative to previous year's. There is no set questionnaire used for this, and no collection of quantitative data as such. Staff stated that they do occasional crop cuts to measure yields. However, the process is not regular or systematic. One district staff member stated, "Poor or incorrect data lead to inaccurate diagnosis of the problem, which results in wrong or misleading treatment."

- Differences were noted between the area and production figures submitted by DADO staff to the Regional Agriculture Directorate, and what appears in the published national report.
- DADO staff indicated that there was no effective collaboration between them and CBS. CBS sample surveys seem to focus on urban/suburban areas. Data reported may be “estimated” rather than collected directly from the official sample population.
- The District office seems to have adequate staff numbers and infrastructure including computers with Internet access. There is a need for better management of human resources, e.g., better supervision and a better reward system to improve work attitudes and motivation, and as well as more funds for job-related travel and training.

## **Universities**

### **Kathmandu University (KU):**

Kathmandu University (KU) is an autonomous, not-for-profit, private institution dedicated to maintaining high standards of academic excellence. KU’s focus is to be a research-cum-teaching university in science, management, engineering, medical sciences, arts, and education. The long-term goals for its development are to: (a) achieve excellence in teaching; (b) provide strong support to professional courses; and (c) strengthen research activities in the fields of environment, energy, medicinal plants and information technology. KU is located in Dhulikhel Municipality, about 30 kilometers east of Kathmandu. At present, the University offers undergraduate, graduate and postgraduate programs in science, engineering, medicine, management, education, arts, pharmacy, environment, music, human and natural resources, information technology and biotechnology through the Schools of Science, Management, Engineering, Medical Sciences, Education and Arts. In addition to 3,369 students studying in its constituent campuses, 4,897 students are enrolled in its affiliated colleges. Annual intake capacity of KU is 1,088: 280 at the intermediate level, 510 undergraduates, and 298 graduates. KU-affiliated colleges have an annual intake capacity of an additional 1,194 students.

### **Capacity Assessment of KU:**

- KU has built a reasonable infrastructure and established a number of sound academic programs. Its activities focus primarily on teaching. KU has maintained academic quality at its own campuses, but it has to fully enforce academic policies and standards at its affiliated campuses.
- It has established linkages with international donors and universities (including MSU).
- It has attracted quality students and promising faculty at both Dhulikhel and Kathmandu campuses. However, junior faculty members would need advanced training to support policy research in natural resources management, educational technology, food and nutrition, and public health–related fields. Such training could help KU to establish research and outreach programs that serve the needs of Nepal.
- Overall, Kathmandu University has the potential to play a valuable role in contributing to food security. However, its faculty needs greater exposure to food security issues. Students should be provided with internship and fieldwork opportunities to have hands-on learning about food insecurity, poverty and hunger prevailing in their own backyards. Faculty and graduate students could conduct applied research projects focusing on the

availability, access and utilization of food for healthy lives and the environments in which food is produced, distributed and consumed. KU resources and facilities could be used for in-country training of civil service professionals, faculty members and policy makers. With appropriate research and outreach exposure, its faculty members could become prominent food policy makers and development administrators in Nepal.

### **Tribhuvan University's Institute of Forestry, Pokhara (IOF):**

Forest resources are essential components of rural livelihoods in Nepal. The forest provides timber for home construction, grass and fodder to feed livestock, and non-timber forest products for household consumption and income generation. Nepali farmers make extensive use of forest products, and many forest products are integral components of the Nepali diet.

Nepal has successful programs in community forestry, leasehold forestry, agro-forestry and collaborative forest management. One-third of Nepal's forests are under community management, involving about 16,000 community management groups representing about 30% of the population.

The Institute of Forestry (IOF) of Tribhuvan University is the only institution in Nepal providing professional-level training in the field of forestry and related natural resources management. IOF became a part of Tribhuvan University in 1972. IOF expanded its academic program in 1981 to a two-year technical certificate program in forestry and a Bachelor of Science degree in Forestry. Currently, IOF operates at two separate campuses, one at Pokhara and the other at Hetauda, implementing academic programs such as a Technical Certificate in Forestry, a Bachelor of Science in Forestry, and a Master's degree in Forest Science. Recognizing the linkages between agriculture and forestry, the Government of Nepal recently passed an Act establishing a new University of Agriculture and Forestry in Chitwan District, which would draw on the faculty and facilities of the IOF campus at Hetauda and of the Institute of Agriculture and Animal Science (IAAS) at Rampur.

From 2002-2004, Michigan State University, supported by funding from the Association Liaison Office (currently known as Higher Education for Development, HED), assisted IOF in developing its Master's degree in Community Forestry. IOF now offers Master's-level programs in nine areas and a M. Phil and Ph.D. in Community Forestry at its Pokhara Campus. IOF/TU is also collaborating with the Agricultural University of Norway in implementing a Master of Science degree in Management of Natural Resources and Sustainable Agriculture (M.Sc. in MNRSA), partially at the Pokhara Campus. Recently, USAID/HED funded a Center of Excellence project to strengthen its research and education programs. IOF's two campuses are administered by separate Campus Chiefs under the leadership of the Dean of the Institute of Forestry. The Dean is supported by two assistant deans.

### **Capacity Assessment of IOF:**

- Most of the faculty members at IOF were trained from the mid-1970s through the 1980s, with assistance from USAID. Many faculty members having advanced degrees will retire within the next five years. Although there are projects that support curriculum development and faculty training at IOF, these efforts are scattered and there are no systematic plans for faculty development. Thus, there is an urgent need to build the



capacity of IOF in light of Nepal's challenges related to climate change, biodiversity maintenance, and the contribution of the forestry sector to national food security goals.

- Retention of externally trained staff has been difficult. A suggestion to address this issue was through “sandwich” training, with some training in Nepal, some outside; research conducted in Nepal; and joint external/internal student advisory committees.
- Nepal is behind on production of improved varieties of tree crops and improved production practices of herbs and medicinal plants. At present, IOF does not have the capacity to address these national needs. Collaborative research programs are needed to develop the capacity of faculty and graduate students to work on these long-term research and development problems.
- Forestry education needs a new curriculum to cover community forestry and livelihood aspects of forest resources.
- The laboratory at IOF in Pokhara is not well equipped.

### **Tribhuvan University's Institute of Agriculture and Animal Science (IAAS):**

The IAAS originated as a school of agriculture, established in 1957 in Kathmandu to train Junior Technical Assistants (JTAs). In 1968, the school was upgraded to a college of agriculture. In 1972, the college was recognized as the Institute of Agriculture and Animal Science under Tribhuvan University. It was moved to its present location at Rampur, Chitwan in 1974. Presently the institute has three campuses—Rampur in Chitwan District, Sundarbazar in Lamjung District, and Bhairahawa in Rupandehi District. IAAS has about 150 faculty members, half with Ph.D.s, spread across the three campuses. IAAS offers degrees of Bachelor of Science in Agriculture, Bachelor of Veterinary Science and Animal Husbandry, Master of Science (Agriculture), Master of Science (Animal Science), Master of Veterinary Science, Master of Science (Aquaculture) and Doctor of Philosophy (Ph.D.) programs. The institute is headed by the Dean.

IAAS was developed with financial assistance from USAID. The first phase of U.S. assistance began on December 1, 1975 and continued for nine years with technical assistance provided through the Midwest Universities Consortium for International Activities, coordinated by Michigan State University. During the second phase (1984-89), USAID offered technical assistance to develop its human resources, and the World Bank funded infrastructure development. IAAS has had no external assistance during the last 15 years.

As noted above, the new University of Agriculture and Forestry, which is to be established in Chitwan District, will use the infrastructure of the IAAS Rampur Campus and the Hetauda Campus of the Institute of Forestry.

### **Capacity Assessment of IAAS:**

- IAAS is the main institution of higher education in agriculture in Nepal. Graduates of IAAS fill most of the jobs within the Ministry of Agriculture and related development projects. So, it is essential that the quality of education at IAAS be maintained and strengthened to provide the manpower needed to achieve food security in Nepal.
- Discussions with IAAS senior officials reveal that faculty members trained at U.S. universities and major universities in India and the Philippines during the mid-1970s and

early 1980s have retired or will retire within the next 3-5 years. The Institute is left with locally trained faculty members. In addition, IAAS now has 80+ M.S. students and 20-25 Ph.D. students. There are too few existing faculty to effectively advise and mentor them. To maintain and strengthen academic quality, a new cadre of faculty members needs to be trained for IAAS or the new university to be established in Chitwan near the IAAS Rampur Campus. Advanced training and mentoring of faculty is needed in many agricultural disciplines. Support is also needed to maintain and strengthen the laboratories and library facilities.

- IAAS needs funds to support faculty and graduate student research. IAAS faculty members have no effective access to research funds through the MoAC competitive grants program (National Agriculture and Development Fund). This constrains their ability to do participatory research with farmers, because no money for travel is available.
- IAAS collaboration with NARC research and outreach programs is weak. This limits faculty and graduate student exposure to new national agriculture research initiatives and programs.
- Other factors affecting capacity include the following:
  - Unreliable electrical power prevents effective laboratory research.
  - New laboratory equipment is needed, as is the ability to repair the equipment already owned.
  - Better library facilities and access to scientific journals. Information was provided about access through AGORA; IAAS is an authorized user.

#### **Other observations:**

Development support to IAAS and IOF should be planned carefully and cautiously. It is easy to develop physical infrastructure, but not the teaching-learning environment. Student groups seem to hold strong interest in national politics and, as a result, academic programs are met with frequent interruptions. Faculty members are engaged primarily in teaching. Although publication is important for promotion to a higher level, research and outreach are considered as a secondary function. Appropriate policies and incentives are needed to encourage faculty to get involved in research and outreach programs, which could be funded through a competitive grant process. Last but not least, older faculty holding administrative positions should be replaced by the young generation to implement innovative programs and effectively mobilize resources for institutional growth and development.

## **International Organizations and NGOs/INGOs**

#### **International Agricultural Research Organizations:**

The Nepal Agriculture Research Council provides office space for major international agriculture research projects. These projects are funded through the CGIAR system or through the international agricultural research initiatives of USAID, Bill and Melinda Gates Foundation, U.K. Department for International Development (DfID) and other donors. The MSU Food Security III team met with representatives of the following research agencies:

- International Rice Research Institute (IRRI)
- International Maize and Wheat Improvement Center (CIMMYT)
- CAZS Natural Resources, Bangor University, UK
- Cereal Systems Initiative for South Asia

Discussions with representatives of the above organizations focused on crop scientists' perspectives on causes of food insecurity in Nepal. They believe that production can be increased in the Terai, but the hill zones are unlikely to become food self-sufficient. The main reason for food insecurity is the low yield of crops. Policy makers must understand factors contributing to food insecurity. For example, the potential yield of rice is 9 tons per hectare but the average yield of rice in Nepal is 2.9 tons. Similarly, wheat yield potential is 7 tons per hectare, but Nepal has an average yield of 2.6 tons per hectare. The principal reason behind low rice and wheat yields is input use inefficiency. The same is true for maize. Yields of these major cereals could increase significantly if farmers had access to irrigation, fertilizer and quality seed.

Improved seed could contribute to a 30-50 percent increase in cereal crop yield. Nepal can produce a sufficient quantity of improved seed. For example, improved rice varieties are being developed using a participatory plant breeding initiative. A system of quality seed production, procurement, storage and distribution is needed. However, ensuring the access of poor farmers to quality seed remains an issue. Small farmers cannot afford to purchase improved seed.

This group of scientists believes that Nepal's food security requires human capacity development in many areas. First and foremost, academic programs at the university level need to be strengthened. This would require faculty development, curricular revisions, and research quality improvement at IAAS. Developing its own institutions and research capacity will help Nepal to avoid brain-drain. Second, there is an urgent need to strengthen the research capacity of NARC scientists, its research stations and laboratories. Research scientists would need additional training. Some need advanced degree training and others need short course training and/or study tours. NARC could benefit immensely through linkages with CGIAR institutes such as IRRI and ILRI.

#### **Specific observations expressed on agricultural research capacity in Nepal:**

- National research organizations, including the CBS, NARC and others, need further training and technical support so they can conduct high-quality research. Data quality needs improvement, data analyses are weak, and findings are poorly communicated to decision-makers. Some skepticism was expressed about the validity of WPF data on the food security status of different districts.
- NARC scientists need additional training. To minimize brain-drain, scientists should be trained at home country institutions (such as IAAS), especially at the masters level, rather than sending them to the United States or United Kingdom.
- IAAS faculty development and curricular improvement is critical.
- NARC research laboratories and facilities must be strengthened. They need new equipment and ability to repair existing equipment. Regular supply of electrical power is critical to the functioning of these laboratories.
- New policies and program support is needed for improved seed, fertilizer and irrigation.
- NGOs are performing better than government agencies. Although government employees hold strong academic credentials, their performance is weak due to poor motivation for work, weak rewards and recognition systems, and lack of funding.

### **Agro Enterprise Center (AEC):**

The Federation of Nepal Chambers of Commerce and Industry (FNCCI) is an umbrella organization of the Nepalese private sector, and the Agro Enterprise Center (AEC) is its agricultural wing. FNCCI has 700 members, of which 100 have a primary focus on agriculture. AEC provides information, advisory, consultative, promotional and representative services to business and government, and organizes regular training sessions, workshops, and seminars.

AEC was established in 1991 under a cooperative agreement between FNCCI and USAID/Nepal. The vision of AEC is to support a strong, vibrant and sustainable private sector capable of contributing to broad-based economic growth. Its mission is to expand and strengthen market-oriented private sector agroenterprises in order to increase the value and volume of high-value products sold domestically and internationally.

AEC organizes public events promote agricultural and natural resource-based markets. Examples include workshops on the price and supply of goats from China, and on the effect of fertilizer subsidies in India on fertilizer price and supply in Nepal. It also conducts workshops to promote policy advocacy. It has promoted many value-added agricultural products. For example, AEC has been instrumental in promoting “Bel juice” in Bardia District, trout farming in Nuwakot District, sweet orange in Sindhuli District, orchids in Lalitpur District, agro-tourism in Kaski District, Lapsi in Bhaktapur District, and coffee in Syanja District.

AEC has initiated a web-based agricultural market information in Nepal ([agripicenepal.com](http://agripicenepal.com)) which is the pioneer web site offering agricultural market information in English and Nepali languages. The web site offers comprehensive wholesale market prices on a daily basis. Information collected at weekly markets in 25 districts includes minimum and maximum commodity prices as well as the sources of the commodities entering the market. Prices are collected on transactions in the morning and disseminated the same day. AEC wants to expand this data collection to 75 markets. Prices are also collected in some border markets twice per month.

AEC believes that food security can be enhanced by increasing production of food and staple crops, improving the physical and economic access to food, and strengthening the supply chain. AEC could play a key role in strengthening the supply chain and contributing to economic access to food by needy households at lower cost. Constraints on effective participation by the private sector include uncertainty about government policies and actions. For example, food grain traders fear that the government may seize stocks that they have stored. AEC also suggested that long-term provision of direct food subsidies, while politically attractive and necessary in certain circumstances, can have adverse effects on food security. Availability of subsidized food reduces incentives for local food production. Further, the current procedures followed by the government and aid agencies in the distribution of subsidized food do not encourage private sector participation, and create opportunities for diversion of resources that reduce the ultimate impact of these programs on food security.

### **Capacity Assessment of AEC:**

- AEC has 18 full-time staff. It needs more staff with training in agribusiness management. AEC feels that IAAS should start a new Masters degree in agribusiness management and

food industry management to fill the human resource gap in the food processing, packaging and marketing sectors.

- To expand their activities, AEC feels it needs an additional 20 graduates.
- AEC's server and networking capacity needs to be strengthened, to support their information-sharing web site as well as internal administration.
- AEC must establish and maintain linkages with international business communities to promote Nepalese products in the international market, and establish a reliable supply of improved seeds, fertilizer and pesticides.

### **National Development Research Institute (NDRI):**

The Nepal Development Research Institute (NDRI) is an independent, nonpartisan and non-profit institution dedicated to research, education and development in Nepal. It aims to address contemporary policy challenges such as the gaps between policy and practice, and to influence public policy through rigorous scientific research. Since about 2005, NDRI has focused on creating opportunities for research, dialogue and collaboration to strengthen the linkages between policy makers, academia and experts. Beneficiaries of NDRI's activities include political bodies, government institutions, international organizations, universities, and research institutes.

### **Capacity Assessment of NDRI:**

Although NDRI has focused on policy research only within the last five years, the outcomes achieved so far have clearly demonstrated the potential of NDRI to evolve as the leading public policy think tank in Nepal. The experience of NDRI in identifying a niche for research on the policy process in Nepal, creating a multi-disciplinary intellectual community across national boundaries, developing externally funded research projects on a partnership basis, capacity building of young researchers, and disseminating research results provides a solid foundation for strengthening the institute further. An example of NDRI work is the publication, "Food Security Atlas of Nepal." The publication was released on July 22, 2010 by NPC, and was developed by NDRI in cooperation with the U.N. World Food Program, Nepal.

### **Rural Reconstruction Nepal (RRN):**

RRN was established by a group of graduates from the Institute of Agriculture and Animal Science (IAAS) who decided to form a development organization with the mission of contributing to the overall development of the country. The Grass Roots Institute for Training and Services-Nepal (GRITS-Nepal) was established in 1989. Later, following a visit by one of the GRITS-Nepal Executive Board members to the International Institute of Rural Reconstruction (IIRR) in the Philippines, GRITS-Nepal was renamed as Rural Reconstruction Nepal (RRN). It envisions a world where there is justice, equality, peace and prosperity for all citizens. Its mission is to improve the lives of the poorest rural people, particularly rural women, peasants, landless people and other disadvantaged and socially oppressed strata of Nepalese society, by providing them opportunities for their own socio-economic empowerment. RRN's projects are designed to tie food security and rural livelihoods to the peace process in Nepal.

RRN carries out integrated community development programs at the grassroots level, advocating for relevant policy and lobbying and networking at local, national and international levels for protecting and promoting human rights and social justice for currently marginalized people and establishing sustainable peace. RRN has successfully implemented various integrated community

development programs and projects in more than 30 districts within the mountainous, middle hills and lowlands (Terai) ecological zones.

RRN has links to international networks. RRN enjoys Special Consultative Status with the Economic and Social Council (ECOSOC) of the United Nations. RRN is also accredited to the Global Environment Facility (GEF). Currently, it is hosting the Regional Secretariat of the South Asia Alliance for Poverty Eradication (SAAPE) – a regional network of mass-based civil society organizations and individuals. Lastly, RRN serves as the International Secretariat of LDC Watch.

A wide range of projects are managed by RRN staff, in areas such as agriculture, health, education, household livelihoods, and community development. RRN staff observed that the determination of food deficit districts (where “food deficit” often means “rice deficit”) is influenced by politics. It was suggested that in the long run it was better to invest in improvement of traditionally grown crops in food deficit districts rather than to airlift rice from production zones in the Terai. Food for work projects, while beneficial in some respects, may promote dependence on food aid and abandonment of agriculture. A related factor explaining the lack of interest in agriculture by Nepalese youth is an educational system that puts agriculture in an unfavorable light. Lastly, it was observed that there is currently no national plan for land redistribution and land use.

#### **Capacity Assessment of RRN:**

- RRN has hired a cadre of professional staff that has impressive range and level of training, experience, and commitment to broad-based development and social justice.
- RRN is currently working in 25 districts and has over 400 staff with an agricultural and rural development background. The staff reported no lack of capacity in implementing major development programs even during the conflict period (i.e., 1996-2006). Staff development has not been an issue for RRN.
- RRN has an impressive office building with access to Internet, and a well-stocked and organized reading room.

#### **FORWARD Nepal:**

The Forum for Rural Welfare and Agricultural Reform for Development (FORWARD) is a non-profit, service-oriented non-governmental organization established in 1996. FORWARD has its head office in Chitwan District and project offices in other districts. Several of the FORWARD staff, including the Executive Director, previously worked at the Pakhribas Agriculture Center (formerly the British Gurkha Reintegration Training Scheme).

FORWARD implements projects focusing on poor households, women, Dalits, Janajatis and children. Since 1996, FORWARD has implemented 45 projects in 33 districts involving a total of 130,000 households (more than 700,000 beneficiaries). Its vision is to build a self-reliant society in which all people live in dignity and prosperity. It helps disadvantaged people to fulfill their basic needs through social mobilization and better utilization of natural resources. The overarching goal is to reduce poverty of rural communities through integrated and sustainable development interventions.

The Department for International Development (DfID), Plan Nepal, and International Fund for Agricultural Development (IFAD) have provided funding for projects and activities. It has also collaborated with District Agricultural Development Offices and accessed funding from the Nepal Agriculture Research and Development Fund.

#### **Capacity Assessment of FORWARD:**

- The organization seems well organized and staffed. The Executive Committee of FORWARD is elected by its General Assembly and provides overall policy direction and guidance to the organization. The Executive Director, supported by subject matter specialists, oversees four programs, i.e., Food Security and Livelihoods, Agribusiness and Market Promotion, Participatory Research and Development, Natural Resource Management, and Administration and Finance.
- The Food Security and Livelihoods program focuses on food crops, high-value commodities (cash crops, fisheries, and livestock), non-timber forest products, and small infrastructure investments (irrigation and resource centers). Activities under agribusiness and market development program include interprise development, value addition and market networking.
- Several senior staff (regular and affiliated) and Board Members hold Ph.D. degrees and many hold Masters degrees. Most of its staff are trained at IAAS.
- They argue that they are able to work more flexibly than Government of Nepal's local offices and agencies.
- FORWARD staff believe that IAAS graduates do not have enough practical experience. If employed in GON agencies, they do not have enough to do, which reduces motivation.

#### **Office of FAO Representative in Nepal:**

Nepal became a member of the Food and Agriculture Organization (FAO) in 1951. Among the UN agencies, FAO was the first to start field work in Nepal. About 200 projects covering various aspects of agricultural development have been completed through FAO support in Nepal.

The level of FAO funding to Nepal is expected to increase in the next few years. FAO technical cooperation programs will continue to assist the Government in an integrated approach to address its immediate priorities through capacity building, institutional improvement, food security-related issues, agriculture and rural development.

According to the FAO Office, the Government of Nepal's capacity to address the food and nutrition sector would benefit from considerable strengthening. There is no clear location of responsibility for food security monitoring. Statistical data on food production and projections from the Ministry of Agriculture and Cooperatives are not entirely reliable. Data generated by the U. N. World Food Program and the Government of Nepal's Central Bureau of Statistics are often contradictory. Agricultural statistical data are based on "eye estimates" rather than empirical data. The Central Bureau of Statistics does not have field offices in all districts, and they depend on temporary hires to gather data. (CBS staff said that they have permanent male enumerators, but generally need to hire female enumerators.) Data generated by Nepal Rastra Bank (central bank) are often a useful supplement.

Currently, Nepal uses a “think tank” approach to policy development. There is no national policy research institute; creating one would be desirable. Because food security is a long-term initiative and involves policy formation and evaluation, building capacity of the Ministry of Agriculture and Cooperative is imperative. There is a need to train people in policy analysis. Further, Nepal should establish “policy analysis” as a service group within the civil service similar to that of the “statistical service” group.

#### **FAO’s Capacity Assessment of Nepal’s Food Security Program:**

- Nepal has a very weak capacity (in government) for food security information and monitoring. There is no policy research institute in Nepal. Government of Nepal relies on “think tanks.” It is essential that Government of Nepal should build its own capacity. There is a policy section within the Planning Division of MoAC, but its capacity is limited.
- There should be a national food security monitoring unit with authority to release information. Such a unit exists within MoAC, but in name only.
- Inconsistencies between information provided by MoAC, CBS, and WFP exist partly due to differences in scope of data collection.

#### **World Food Program, Nepal**

The United Nations World Food Program (WFP) is the largest humanitarian agency fighting hunger worldwide. Established in 1962, WFP responds mainly to emergencies due to war, civil conflict and natural disasters. After the cause of an emergency has passed, WFP uses food to help communities rebuild. WFP works towards that vision with the Food and Agriculture Organization (FAO) and the International Fund for Agricultural Development (IFAD) as well as host government, UN and NGO partners.

WFP began operating a food security monitoring system in 2002.<sup>5</sup> It has 32 field staff spread over 60 districts. WFP plans to cover 72 districts of Nepal (except 3 districts in the Kathmandu Valley) by the end of 2010. Each district has a Food Security Network headed by a Local Development Officer. Based on district-level meetings and knowledge-based methods (not a questionnaire approach), they generate food security information on a quarterly or semi-annual basis. Household survey data are also collected (though less frequently), especially in areas of severe food insecurity. WFP reports include:

- District Food Security Bulletin (quarterly)
- Market Watch (monthly, jointly produced with MoAC, FNCCI/AEC, and the Consumer Interest Protection Forum (CIPF))
- Crop Situation Update (semi-annually, jointly produced with MoAC)

#### **WFP’s Capacity Assessment of Nepal’s Food Security Program:**

- This year, WFP plans to transfer the Food Security Network (food security monitoring) and the market watch to the MoAC. This has been agreed in principle, though the capacity is not yet in place. As a measure of the capacity needed, WFP indicated that they

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<sup>5</sup> The following document contains a detailed explanation of the methods used to prepare the district-level food security assessments. GON/WPF/FAO. 2010. *Framework Document for Institutionalizing National Food Security Monitoring in Nepal*. Nepal Food Security Monitoring System (NeKSAP). January.



have 10 technical staff in Kathmandu who process data and write reports. A proposal to transfer WFP's household surveys to CBS has thus far not been accepted by CBS.

- WFP staff suggested that there is a need to train MoAC staff (both at the ministry and the district levels) on methods for collecting and analyzing food security data, and sharing reports with policy makers and donor communities in a timely manner. Training and capacity building should receive priority.
- WFP district field monitors are well equipped. Those involved in carrying out the household-level surveys have access to PDAs, satellite phones with GPS, and bicycles or motorcycles. Maintaining adequate survey coverage and data quality remains challenging, and requires attention to incentives provided to survey staff.

### **International Centre for Integrated Mountain Development (ICIMOD):**

The ICIMOD is a regional knowledge development and learning center serving the eight regional member countries of the Hindu Kush-Himalayas – Afghanistan, Bangladesh, Bhutan, China, India, Myanmar, Nepal, and Pakistan. ICIMOD is based in Kathmandu, Nepal. It is working to develop an economically and environmentally sound mountain ecosystem to improve the living standards of mountain populations and to sustain vital ecosystem services for the billions of people living downstream. It supports regional transboundary programs through partnership with regional partner institutions, facilitates the exchange of experience, and serves as a regional knowledge hub.

ICIMOD's main program areas are: (1) integrated water and hazard management; (2) environmental change and ecosystem services; (3) sustainable livelihoods and poverty reduction, and (4) integrated knowledge management. Projects include the Surveyor Himalaya project, which is a collaborative project between NASA and ICIMOD. The project will help establish a regional database that will be made available to policy makers. The data set, which includes socio-economic information, can be accessed through a single window. It has a knowledge management program that focuses on regional sharing of information. ICIMOD has a strong interest in collaborating with USAID in building Nepal's capacity to address food insecurity and climate change issues facing mountain people.

### **ICIMOD's Capacity Assessment of Nepal's Food Security Program:**

- The Government of Nepal needs to build human resources capable of to conduct sound policy research. What factors are affecting food availability in food deficit areas and how their effects could be minimized?
- Knowledge and information sharing is critical, but current capacity to disseminate new knowledge to end users is weak.
- ICIMOD is working to share its knowledge base and expertise about climate change with member countries. Nepal needs to initiate research program to develop new varieties of crops and breeds of livestock that adapt well to new climatic conditions.

### **Asia Network for Sustainable Agriculture and Bioresources (ANSAB):**

Established in 1992, ANSAB is an independent, not-for-profit NGO working in South Asia with its headquarters in Kathmandu, Nepal. It is committed to biodiversity conservation and economic development through community-based enterprise oriented solutions. Major areas of work have

have included forestry and nontimber forest products (NTFPs), value chain development for high-value crops, and projects that assist marginalized groups. ANSAB was involved in the formulation of the national NTFP policy, and recently won second prize in a World Bank-sponsored global competition for most innovative development program. Our visit to ANSAB was not long enough to permit a more detailed assessment of their capacity.

## **Conclusions from Institutional Capacity Assessment**

Consistent with the requested focus of the institutional capacity assessment, the MSU team met with personnel from the National Planning Commission and the Ministry of Agriculture and Cooperatives. In addition, the team met with representatives of the Nepal Agricultural Research Council, public and private universities and institutes, and both national and international NGOs. In summary, these meetings resulted in the following impressions and conclusions:

*Government institutions lack their own capacity for empirically based food policy research and analysis.*

The National Planning Commission and Ministry of Agriculture and Cooperatives are the central organizations providing the policy framework and funding for Nepal's food security program and activities (along the Ministry of Finance and external donors). Both NPC and MoAC lack capacity for conducting studies pertaining to food security and nutrition, or monitoring the national food security situation. Currently, these functions are served by programs and organizations funded by external donors. Nepal would benefit from having its own food policy monitoring and research capacity. This would require strengthening human resources through degree training, short courses and mentoring. Mid-career civil service professionals – primarily within NPC, MoAC, MoF, and CBS – need training on policy analysis.

Within MoAC, the Departments of Agriculture and Livestock Development and the NARC are central to implementing food security programs. Other important institutions are the Department of Irrigation, the Agricultural Development Bank, and market development and input supply agencies. The observations above about lack of food security policy analysis capacity apply to these institutions as well.

The need for more in-depth assessment of institutional capacity related to the NPC and MoAC should be determined in response to a review of the findings of this report, in relation to USAID/Nepal's current priorities and planned programs.

*The capacity built within public universities through past programs has faded, and needs reviving*

The academic programs of Tribhuvan University's agriculture and forestry institutes, which received major investments from the mid-1970s through the 1980s, have significantly weakened. Many faculty members trained at U.S. and other international universities have retired or will retire within the next three to five years. Libraries do not have good access to research journals, either in hard copy or digitally. Laboratories need new equipment, and old equipment needs repair and continuing maintenance. There is an increase in the graduate student population, but funding for research projects is not adequate. Faculty members are engaged primarily in teaching, not in research and outreach. Since these institutes play a key role in pre-service training of professionals for food security programs, there is an urgent need to build and

integrate the teaching, research and extension capacity of both these academic institutions. Establishing the new national university of agriculture and forestry will be a high priority for the government, and for any university-related capacity-building efforts.

*New models of training are needed to promote training relevance and trainee retention*

Several individuals consulted indicated that past training programs have sometimes suffered from low relevance and low trainee return rates. Experience from previous FS III projects shows that these potential problems need to be addressed at both the training design and implementation stages. Training relevance requires tying the training closely to the objectives and activities of current and future programs; paying careful attention to placement (choice of training institution and program); integrating hands-on or experiential learning during the training (e.g., through internships or participation in team-based project activities); and research that focuses on nationally relevant topics and, where possible, is implemented in-country. Retention of long-term degree trainees can be increased by ensuring, e.g., through sandwich programs, that participants spend a minimum time away from Nepal, and carry out research in Nepal. Also important is careful selection of trainee candidates (ideally junior staff from institutions who are being strengthened); reinsertion of graduates back in their home institution or project to maintain continuity of employment; and continued support for graduates on the job through mentoring, networking, and opportunities for later refresher training; and provision of “start-up” resources (if possible) to support the activities and consolidate the skills for which the individual was trained.

*Nepal lacks capacity to produce hybrid and other improved seeds.*

Increasing the yield of food crops depends importantly on expanding the supply of improved seed. However, almost all hybrid vegetable seed and hybrid maize seed is imported. NARC and MoAC have not been able to meet the demand for open-pollinated or hybrid maize seed, nor is there adequate capacity for evaluating the suitability of imported seed. Nepal should learn from its poultry and fishery (hatchery) industries, which supply baby chicks and fingerlings locally. The capacity of NARC research stations needs to be greatly strengthened, and partnerships explored with international agricultural research centers (e.g., CIMMYT) and with private seed companies and input supply dealers.

*Nepal’s NGO’s include a number with significant expertise, experience, and capacity.*

Nepalese NGOs are involved in a variety of agricultural and rural development programs and many are contributing significantly to enhance food security among the poor who live in remote rural areas. The NGOs with whom we met are probably among the best. Their staff are well-trained, they seem to organize and manage their programs and project activities in a very professional manner, and they are dynamic and entrepreneurial—matching programs to local needs and market conditions. These characteristics are perhaps a result of fewer institutional constraints and greater resources than within most government units. NGO personnel and staff demonstrate a high degree of commitment to the poor and marginalized groups. Their work is documented in reports, and the impacts of their work are shared with national policy makers and donor communities. The human resources and networks developed by NGOs, and their experiences, ideas and lessons learned about ways to address the challenging problems of food security in deficit areas, could be shared throughout the food security system and incorporated in other training.

Regarding seed production, timely supply of inputs, and supply chain development, partnership between government agencies, NGOs and private groups could result in more cost-effective, timely and sustained benefits.

*Private agroenterprises seem to be underutilized as potential partners in pursuing Nepal's agricultural growth and food security goals*

Our visit to FNCCI/AEC, which is admittedly a limited sample, suggested that serious attention should be given to encouraging greater involvement of the private sector. This could stimulate higher incomes through agroenterprise development (e.g., high-value crop or NTFP value chains), and it could help reduce costs (e.g., in implementing the logistical aspects of food security and emergency relief programs). Indeed, market-oriented agricultural growth is impossible to create without support for active private sector involvement.

Experience gained elsewhere strongly indicates that a closer partnership between the public and private sector can be very beneficial, and that common points of distrust and misunderstanding between the two can be resolved. Empirical policy-oriented research can be helpful in this regard.

### **Areas of Potential Support Through Food Security III**

Despite many challenges, Nepal has tremendous potential to significantly increase food production, distribution and utilization. The government shows a strong desire to improve the food security and livelihoods of poor and marginalized households. Many institutions involved with agricultural research and extension services, higher education, irrigation and water management, agricultural credit and inputs supply are in place. However, Nepal's capacity to carry out the programs and activities to achieve food security is weak.

We have identified the following areas of potential collaboration in Nepal:

1. MSU Food Security III could help develop Nepal's capacity to conduct empirically based policy research and analysis on food and nutrition. An important question is where to focus such capacity-building efforts. Nepal's universities (public and private), institutes (such as NDRI), and NGOs all have the potential to contribute to policy research and would benefit from stronger capacity. In the long run, however, it seems best to develop capacity within the Government of Nepal, although perhaps not exclusively. Such capacity-building would require long-term degree training, short-term training and technical support in conducting policy studies, and in-service mentoring. Issues of how to design and implement such activities effectively, e.g., to ensure relevance and satisfactory trainee retention rates, are addressed in the previous section.
2. Related to (1), MSU/FS III has special expertise in survey research methods, and more broadly in building agricultural sector information capacity. Both are important prerequisites for empirically based policy analysis.

3. Given the issues faced in Nepal's agricultural sector, empirical studies are needed in areas such as the competitiveness of domestic rice production, value chain development for onions, tea, coffee (for example), economics of irrigation development, input subsidy policies and programs, integration of agriculture and forestry, and economic returns to crop and livestock research and extension programs. MSU/FS III faculty could assist in carrying out such studies, in collaboration with Nepal's National Planning Commission, Ministry of Agriculture and Cooperatives, and related units.
4. Strengthening Nepal's higher-education institutions is a vital long-run investment, given the role of those institutions in creating the human resources needed for food security and poverty alleviation in Nepal. Michigan State University could provide technical assistance to higher-education strengthening programs, e.g., those focused on the Institute of Agriculture and Animal Science, and/or the Institute of Forestry. Any such support would probably need to be designed and implemented as part of initiatives that follow from Nepal's recent decision to develop a new University of Agriculture and Forestry. Specific areas of technical assistance might include (a) faculty development through in-country collaborative research and outreach training, internships at district-level food security projects, and mentoring by senior faculty and research scientists; (b) an internship program for graduate students and selected undergraduates at IAAS and IOF; (c) strengthening library acquisitions, research laboratories, and data analysis and publication skills of faculty and graduate students; (d) enabling faculty members to seek external funding for research and outreach activities; and (e) updating academic programs and initiating new curriculum to meet manpower needs for food and nutrition security in the country.
5. MSU could provide training and technical assistance in support of impact assessments of FfF-related programs in Nepal. This would be a joint/collaborative project with host-country officials in establishing outcome indicators, gathering baseline data to establish benchmarks, and monitoring progress toward food security goals.
6. MSU, in partnership with relevant in-country organizations, could establish "Food Security Demonstration Villages" in selected food-insecure districts of Nepal where professionals from agricultural research, education, extension, and input supply agencies work together to demonstrate participatory demand-driven food security programs.
7. Beyond the current FS III team, MSU has significant faculty resources and expertise in two areas of high-priority concern in Nepal, namely nutrition and climate change.

Documents prepared by the MSU Food Security III team,<sup>6</sup> and the presentation given by Dr. Crawford at the July 21 seminar in Kathmandu organized by the NARC Executive Director,<sup>7</sup>

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<sup>6</sup> Food Security Group (FSG). 2009. Lessons Learned from 25 Years of Food Security Research, Capacity-Building, and Outreach. *MSU International Development Working Paper* 101. Department of Agricultural, Food, and Resource Economics. E. Lansing: Michigan State University. (Short version also available as *Policy Synthesis* 84.). Available from: <http://www.aec.msu.edu/fs2/index.htm>

<sup>7</sup> Crawford, Eric W. 2010. "Overview: Food Security Program at Michigan State University." Presentation at Nepal National Agricultural Research Council, July 21. Dept. of Agricultural, Food, and Resource Economics, Michigan State University. PowerPoint forwarded separately to USAID/GDO/NEPAL.

provide information on MSU's capacity to assist in the areas identified above, based on three 10-year USAID-funded cooperative agreements focused on food security in Africa that have been carried out by the MSU Department of Agricultural, Food, and Resource Economics (AFRE). These agreements have had core funding from USAID central bureaus and buy-ins or associate awards for country- or regional-level activities designed in partnership with USAID and host country institutions and driven by their priorities. The current agreement (Food Security III, 2003-2012) has a global mandate; new activities are being explored with USAID missions in Central America and Asia, consistent with the country and thematic priorities of the Feed the Future Initiative.

Food Security III activities have a strong focus on applied research, outreach, policy dialogue, and human and institutional capacity building in the areas of agricultural and food security policy. The themes addressed under FS III are:

- Improving food systems performance:
  - Farm productivity and technology use
  - Staple food and input markets, market information, market reform, “food sheds” and regional trade
- Improving the food and nutrition security of vulnerable groups: understanding household income and livelihood dynamics
- Food security interactions with the environment and natural resource management.

More broadly, beyond the Food Security III team, Michigan State University has over 1,500 faculty members with experience in 176 countries. Currently, MSU faculty are involved in 110 projects operating in 55 countries worldwide, including 12 countries with project offices. Much of this activity is coordinated through and supported by the more than 25 Centers, Institutes and other units specializing in regional (e.g., Africa, Asia, Latin American and Caribbean) or thematic (e.g., Gender, International Agriculture, International Health, International Higher Education) areas of international/global development research, teaching and outreach.

We believe that USAID/Nepal and its partners, including the Government of Nepal, can benefit from MSU's experience on ways to enhance food security and reduce poverty in Nepal, through activities identified and implemented collaboratively with USAID/Nepal, the Government of Nepal, and other institutions within Nepal. We stand ready to contribute our experience and expertise in order to help achieve the goals of the Feed the Future program in Nepal.

## **Appendix A**

### **Trip Organization**

July 11: Departure from U.S.

#### ***Part I: Meeting with key officials in Kathmandu***

- July 13: Arrival in Kathmandu; briefing at USAID/GDO on the FS III cooperative agreement; finalization of in-country travel and work plan.
- July 14: Director of Department of Agriculture, MoAC; Executive Director of Nepal Agriculture Research Council, and his department heads; Joint Secretary, Planning Division, MoAC; CIMMYT/IRRI research team; USAID/GDO Director.
- July 15: FAO Representative; Director, Nepal Development Research Institute; program officers, World Food Programme; Honorable Vice Chairman, and Honorable Member for Agriculture, National Planning Commission.
- July 16: Travel to Dhulikhel and meeting with representatives of Kathmandu University; return to Kathmandu and meetings with Director of Central Bureau of Statistics, and his senior staff; Director of Rural Reconstruction Nepal, and his senior staff.

#### ***Part II: Field visit to observe food security challenges***

- July 17: Travel to Pokhara; travel to Lumle; visit to Hill Agricultural Research station and meeting with Director and other senior researchers; return to Pokhara.
- July 18: Former Dean, Institute of Forestry, Trivubvan University, Pokhara; visit to food security and education projects in Hamsapur Village, Kaski District.
- July 19: Travel to Bharatpur, Chitwan District; Dean, senior faculty and administrators, Institute of Agriculture and Animal Science, Rampur; MoAC crop/livestock demonstration farm, Bharatpur.
- July 20: District Agricultural Development Office (MoAC), Bharatput; Executive Director and senior staff, FORWARD; travel to Kathmandu.

#### ***Part III: Debriefing and Follow-Up in Kathmandu***

- July 21: Deputy Director and senior staff, International Center for Integrated Mountain Development (ICIMOD); Crawford seminar presentation at Nepal Agricultural Research Council.
- July 22: Out-briefing at USAID/GDO; Executive Director, FNCCI/AEC.
- July 23: Executive Director and senior staff, ANSAB; follow-up meetings with Vice-Chairman and Member for Agriculture, National Planning Commission, and with Joint Secretary, Planning Division, MoAC. Departure for return to the U.S.

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