

INNOVATION LAB FOR LEGUME SYSTEMS RESEARCH TRANSFORMING THE LENTIL SECTOR IN NEPAL

USAID Nepal Buy-In

The Feed the Future Innovation Lab for Legume Systems Research recently launched a new project designed to transform the Nepal lentil sector. The project is supported through funding provided by USAID Nepal.

Lentil is an important crop in Nepal for nutrition, soil health, and as both a staple and export commodity. However, crop yields have become stagnant with the low productivity attributed mainly to stressed environmental conditions and agronomic practices. Lentil produces compete with imports as large legume processors prefer imported lentil due to cost and uniformity. Lentils occupy 60% of the total grain legume area and production in Nepal, making the country the sixth largest producer and fifth largest exporter of lentils. Given that lentil demand has expanded 6.2% over the past ten years, it is estimated that Nepal's revenue from lentil export could double or even triple if relevant actions are taken to boost cultivated area, productivity, and market integration.



Nepal lentil is among the most nutrient dense in the world however many of these nutritionally rich varieties do not possess the stress and disease tolerant traits for higher yield potentials. Research indicates that the average age of commercialized lentil varieties is 27 years and that 85% of small holder farmers use seed that is decades old. One goal of the project is to identify varieties that are stress resistant, nutritionally biofortified, high yielding, and consumer preferred and provide strategies for farmer variety adoption.

The project will also identify low-cost, low-barrier easily adjustable farming practice solutions and deployment strategies that are expected to lead to increased yields, decreased pest and disease damage, and reduction of post-harvest loss. The solutions will be delivered through a "curriculum" for lentil farming developed in conjunction with national agricultural extension agencies. These best practices will be deconstructed into easy-to-follow steps and visualized in animations created by Scientific Animations Without Borders (SAWBO). Scientific Animations Without Borders (SAWBO) is a Purdue university-based program that transforms extension information into 2D, 2.5D and 3D animations, which are then voice overlaid into a diversity of languages.

Approximately 10 videos will be created or adapted from the existing SAWBO library to address such topics as agronomy, integrated pest and disease management, processing, and post-harvest loss. The animations which will be available in multiple language variants will be disseminated through social media platforms and a network of all value chain actors and their networks. The videos are projected to reach approximately 670,000 farmers.

A closer look into the Nepal lentil seed and market systems will also identify bottlenecks and weak points from seed/variety availability from the producer level all the way through to legume market and export. A special focus will be made on the varietal nutritional panels and potential advantage for nutrition fortified varieties, especially taking advantage of the increase presence of selenium in the lentil of Nepal. Multi-variety trials will be conducted to ensure selected varieties respond to localized trait and preference requirements.

To address these issues the project will organize two or three multi-stakeholder platforms (MSP). MSPs provide "spaces" for learning and knowledge exchange where various stakeholders come together to diagnose their challenges and identify opportunities to address them that are mutually benefiting. The project will build upon existing networks to organize the MSPs.

A focus of the project is to address the capacity development of women. Due to the feminization of agriculture in Nepal, since 2016 women have made up more than 50% of the agricultural workforce. The project will be gender responsive and engage with gender specialist to facilitate the inclusion across all activities with a special emphasis on women's access to seed.

USAID/Nepal's development goal is a more self-reliant, prosperous, and inclusive Nepal that delivers improved democratic governance and health and education outcomes. More specifically, this project addresses the four strategies USAID/Nepal has identified for obtaining this goal. The strategies are to engage the private sector in agricultural value chains, promote value chain growth and diversification, increase incomes, and enhance food security. This is being achieved by focusing on five value chains, namely, vegetables, rice, maize, lentils, and goats.

The Feed the Future Innovation Lab for Legume Systems Research is a research capacity building development program that focuses on grain legumes. The program is funded by USAID through Feed the Future, the U.S. Government's global hunger and food security initiative.

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This work is funded in whole by the United States Agency for International Development (USAID) Bureau for Food Security under Agreement #7200AA18LE00003 as part of Feed the Future Innovation Lab for Legume Systems Research. Any opinions, findings, conclusions, or recommendations expressed here are those of the authors alone.