



# FEED THE FUTURE

The U.S. Government's Global Hunger & Food Security Initiative



## **Innovation Lab for Nutrition- Asia Helen Keller International-Nepal Annual Report October 1<sup>st</sup>, 2014- September 30<sup>th</sup>, 2015**

**Lessons learned from programs  
in Nepal that integrate  
agriculture and nutrition actions**

**Award  
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**Feed the Future Innovation Lab  
for Nutrition-Asia**

## U.S. Government Partners



## Partners in Nepal



**Feed the Future Innovation Lab for Nutrition-Asia**  
**Annual Report**  
**2015**

**Submitted to: Tufts University–Nutrition Innovation Lab**  
**Submitted by: Helen Keller International-Nepal**

## Lead University

Founded in 1915 by Helen Keller and George Kessler, Helen Keller International (HKI) is among the oldest international non-governmental organizations (NGOs) devoted to preventing blindness and reducing malnutrition in the world. HKI currently operates in 22 countries, 13 in Africa, eight in the Asia-Pacific, and the United States [www.hki.org](http://www.hki.org).

HKI Nepal has been operating in Nepal since 1989, primarily working with national partner organizations. HKI Nepal's current portfolio includes a USAID funded, five year integrated nutrition and health program called *Suaahara* (2011-2016) in collaboration with Save the Children and five other consortium partners. HKI is also a partner with Save the Children and the Community Resilience Program Consortium, on *Sabal* for Livelihood, Nutrition and Disaster Risk Reduction and Climate Change interventions in six districts of the central and eastern hills. Prevention Against Newcastle Disease (PRAN), funded by the Bill and Melinda Gates Foundation and GALVmed, supports a public-private initiative for Newcastle disease vaccination of backyard poultry. A series of studies under *Assessment and Research in Child Feeding* (ARCH) is also funded by the Bill and Melinda Gates Foundation. It is primarily looking at infant and young child feeding practices including product labeling and promotion of breast milk substitutes and commercially produced complimentary foods. In addition, HKI is supporting the USAID-funded SPRING Project for a case study on "Pathways to Better Nutrition" aimed at exploring how the Nepalese Government prioritizes nutrition interventions through the Multi-Sector Nutrition Plan and supports its implementation to achieve the national goals for reducing undernutrition in the country.

Currently, HKI is engaged in three research studies funded by USAID and managed by Tufts University for the Feed the Future Nutrition Innovation Lab. The Policy and Science for Health, Agriculture, and Nutrition (PoSHAN) research draws on national policies and large-scale multi-sectoral programs currently underway in Nepal. This research study has two components—PoSHAN Policy and PoSHAN Community. The former is conducted by Tufts University in partnership with HKI, Patan Academy of Health Sciences (PAHS) and Valley Research Group (VaRG). In collaboration with the Child Health Division (CHD) and the National Planning Commission (NPC), the research has been conducted in 21 randomly-selected field sites across Nepal over the past two years with key informants at national, district, Village Development Committee (VDC) and Ward levels as part of the PoSHAN Process to analyze how a range of policies and programs are translated from the design to the implementation phase. This policy component is complemented by a community level study, managed by Johns Hopkins University.

## List of Program Partners<sup>1</sup>

Helen Keller International in collaboration with Tufts University Nutrition Innovation Lab-Asia, partners with different government and non-government organizations including the Patan Academy of Health Sciences (PAHS), Valley Research Group (VaRG), Nepalgunj Medical College Hospital (NMCH), Child Health Division (CHD), the Ministry of Health and Population (MoHP) and the National Planning Commission (NPC).

### Acronyms

1. BMS – Breast Milk Substitution
2. FCHV – Female Community Health Volunteer
3. FLW – Frontline Worker study
4. FSO – Field Study Officer
5. PoSHAN – Policy and Science for Health, Agriculture and Nutrition
6. VaRG – Valley Research Group

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<sup>1</sup> US universities and international partners by country

7. HKI – Helen Keller International
8. VDC – Village Development Committee
9. MSNP- Multi-Sectoral Nutrition Plan
10. NHRC – Nepal Health Research Council
11. PAHS – Patan Academy of Health Sciences
12. Suaahara – USAID funded nutrition program
13. Sabal – USAID-funded livelihood program
14. BBNC – Bangalore Boston Nutrition Collaborative
15. CHD – Child Health Division
16. MoHP – Ministry of Health and Population
17. NMCH – Nepalgunj Medical College Hospital
18. NPC – National Planning Commission

## I) Executive Summary

PoSHAN is ongoing process research being undertaken in 21 sites across the mountains, hills, and terai of Nepal. The longitudinal prospective study has completed two rounds of data collection. Findings from the first round of data collection were shared with the wider stakeholder network during the third Scientific Symposium in November 2014, and research briefs were made available to the various levels of government in the study districts. Data analysis of the Round II study, conducted in 2014, is ongoing. Data collection for Round III was planned for the summer of 2015, however, the massive earthquake of April 25 made it impossible to carry out the study in several severely affected PoSHAN survey districts.

This year, the plan was to conduct the Frontline Worker (FLW) study along with PoSHAN Round III, so both studies were assigned to the seven Terai districts and the two sentinel sites, Banke and Jumla, to cover nine of the 21 PoSHAN study districts, in line with the PoSHAN community study. The FLW study was to be conducted simultaneously in four additional districts in the Far-Western Development Region where the Suaahara and Kisan projects are operating to assess the effectiveness of integrated nutrition programs. While awaiting final IRB approval for the FLW study, further delays occurred due to political unrest that led to a string of *bandhs* (protests) and government-enforced curfews, which made it impossible to conduct the studies in the Terai. However, as soon as it was possible, the field study team moved to the Far West and completed the FLW study during this reporting period.

The new major activity initiated this year is the Afla Cohort research, a birth cohort study designed to explore the relationship between maternal exposures to mycotoxins, birth outcomes and stunting in infants. A protocol outlining the aims and study goals, methods, and implementation of the study were developed and seven exploratory focus groups were conducted in four VDCs in Banke. Study tools, including protocols and interview instruments, were prepared and submitted to the Nepal Health Research Council for IRB approval and the research site set-up, staffing and training were conducted in Nepalgunj between February and April 2015. Field and clinical teams were trained on study protocols, including data collection and entry in tablets (in both Nepali and Awadhi), based on the training manuals and standard operating procedures for each activity. A fully-functioning lab at Kohalpur was established with all necessary equipment installed for sample processing and storage.

The earthquake and subsequent aftershocks delayed the completion of preparation and start-up activities. A “soft” start-up began following the official launch on July 1, 2015. This small start-up provided an opportunity to refine the study tools, rectify the glitches in the database and strengthen the monitoring and tracking systems. In August, demarcation of new state boundaries was declared by the Constituent Assembly, which led to political unrest among the ethnic minority groups. This was followed by a string of *bandhs* that included the Banke district and government-enforced curfews in the neighboring districts of Surkhet and Kaili, rendering it impossible to conduct study activities. The enrollment of study participants will resume when the district is free of politically-activated, ongoing bands.

## II) Program Activities and Highlights: October 2014-August 2015

### **PoSHAN Policy and Frontline Worker Studies**

Study findings from the first round of data were shared during the third Scientific Symposium in Kathmandu in November 2015, and research briefs were shared with all PoSHAN study districts. While analysis and reporting for the PoSHAN Round II were carried out by the Nutrition Innovation Lab-Asia team at Tufts University, preparation for PoSHAN Round III began with the development of the scope of work, preparation of the tools and protocols, and submission to the IRB.

During the same period, discussions continued around the selection of sites for a Frontline Workers (FLW) study, designed to assess the process of bringing integrated nutrition information and services to

communities. It was decided that the FLW should be conducted along with the PoSHAN policy study, as well as in four of the Suaahara districts in the Far West. Unfortunately, these plans were thwarted when an earthquake measuring 7.8 on the Richter scale occurred on April 25. The earthquake and the hundreds of aftershocks caused massive devastation in the hills and mountains of the western and central regions of Nepal, bringing routine activities to a halt. Several of the PoSHAN districts were severely affected and it was not safe or appropriate to have enumerators in the field. After a series of discussions on how to reassign the districts, the Tufts team decided to go ahead with the seven terai districts and the two sentinel site districts—Banke and Jumla—for both PoSHAN Policy and Community studies and the FLW. The additional four far-western districts—Baitadi, Dadeldhura, Doti and Achham—were also assigned to the FLW study.

Valley Research Group (VaRG) was selected to conduct the study, based on their capacity, quality of work performance and experience with both studies. Once IRB approval for both studies was received, the training of the enumerators was completed and the enumerators prepared for the field work. However, just as the teams were scheduled to depart to the field, the designation of States by the Constituent Assembly led to political unrest among minority ethnic groups in different parts of the country. Violent confrontations called *bandhs* and curfews occurred in the Terai and in some hill districts. Because of this, VaRG was unable to send their teams to the field for several weeks. When the situation became sufficiently safe, their teams proceeded to the far west of Nepal for the FLW study.

### **Aflatoxin study**

A protocol outlining the aims and study goals, methods, and implementation of the study was developed in November 2014, and since then, protocols and guidelines have been prepared and revised to incorporate on-the-ground realities. The study will be conducted in 17 Village Development Committees of the Banke District, a multi-ethnic terai district in the Mid-Western Development Region. A brief outline of the activities and a timeline is shared below:

**Aflatoxin Focus Group Discussions:** Seven exploratory focus groups (four with women and three with men) were conducted using a semi-structured discussion format to assess: (1) definitions of food safety; (2) awareness of mycotoxins; and (3) knowledge of how to manage mold/fungus during pre-harvest, post-harvest, storage, and household consumption. The study was approved by the Nepal Health Research Council (NHRC) on December 11, 2014 and the focus group discussions (FGD) were conducted from February 2-6, 2015 in four VDCs in Banke.

**Study approval for aflatoxin study:** Study tools were finalized in February 2015, and the protocol was submitted to NHRC and approved on February 20, 2015. Study guides and manuals were also developed in English and Nepali during this period.

**Hiring of agency and staff:** Locus Solutions was hired through a competitive bidding process to develop the electronic data collection system using tablets. In February-March, staff hiring began with the Field Coordinator and the Senior Nurse, followed by Field Supervisors, Enumerators and Nurses. Field Guides and the Lab Technician were hired in early June.

**Banke site set-up:** A formal relationship was established with Nepalganj Medical College (NGMC) in Kholpur to provide an onsite laboratory for the biological samples and an office for the clinical nursing team, under the leadership of the senior nurse. The agreement includes their provision of ultrasound services for the study. A field office was established in Nepalganj, as a base for the field teams under the leadership of the field coordinator.

**Training:** A month-long training for field supervisors, enumerators and the clinical team was conducted in March-April. The training was held in Nepalganj each day, where the clinical and field teams received

theoretical training on each of the protocols and procedures, followed by practice sessions and reviews for technical accuracy.

**Delay due to the earthquake on April 25:** The earthquake on April 25, caused several weeks' delay in carrying out the next steps in the study preparation.

**VDC-level orientations:** In May and June, study teams led by the field supervisors visited the VDC secretary, health post officials, and the FCHVs in all 17 study VDCs to introduce the study goals and methods, and to establish relationships with the government management and outreach services centers.

**Pregnancy census and mapping:** In June, following the orientations, the field teams obtained a list of pregnant women from the FCHV's register in each ward (nine per VDC), verified the pregnancies and prepared a record of the potential study participants. A mapping of the VDCs was also carried out.

**Official Launch and enrollment:** The launch of the Afla Cohort study took place in Nepalgunj on July 1 and enrollment started from July 5. After an initial enrollment of 70 participants, some early issues arose, particularly with the study protocol and the use of tablets. It was decided that no more enrollments should be made until these issues were resolved.

Due to the refinements required in the field, both technical and staffing, and a nationwide and terai-specific strikes and curfews, fieldwork was impossible during August and September 2015. Work will resume sometime between the end of September and beginning of October 2015.

### III) Key Accomplishments

Two major accomplishments of this reporting period are mentioned below:

**Mobilization of the field team for data collection of Round III PoSHAN study and FLW study:** Despite the delays caused by the major earthquake and political unrest in the country, the field team was trained and mobilized for data collection in the study districts.

#### **Initiation and startup of Afla Cohort study activities**

Tremendous time and effort has gone into planning, preparation and initiation of the Afla Cohort study. Banke has a fully trained and functioning field team with a Field Study Officer, Supervisors, Enumerators and Field Guides in place. Training of locally-hired field staff with limited knowledge and experience in research was one of the most challenging tasks. Both the one-month intensive master training and a series of refresher training sessions has created a solid skill-set among each cadre. Though there were challenges in retaining the initially-hired Nurses and Head Nurse for the clinical team, a strong clinical team is in place, including a lab technician and two ultrasonologists.

Strong collaboration with national and local government and non-government partners for this study is another accomplishment. The official launch of the Afla Cohort study brought together the Director of the Nepal Health Research Council from Kathmandu, and the District Public Health Office and District Development Committee Office from Banke, all of whom are very supportive. During the VDC orientation sessions the study team established relationships with VDC officials, health post and sub-health post staff and the FCHVs in the study VDCs. The pregnancy census activity provided a good opportunity for the study team to interact and build relationships with the community households.

A formal relationship was established with Patan Academy of Health Sciences (PAHS) in Kathmandu and Nepalgunj Medical College in Kholpur, Banke district. NGMC has provided an office space for the clinical team, and a lab space where blood and breast milk samples will be centrifuged and stored at -20C before

being transported to the PAHS facility in Kathmandu for storage at -80C before being transported to the US. Both the study office in Nepalgunj and the lab-office site at Kohalpur are equipped with internet service and a power supply with a back-up system.

Locus Solution was hired to develop the database for front and backend management of data. Despite complications with the system, the continuous communication between Locus Solution and the study team has resulted in an error-free database system with both a Nepali and Awadhi frontend interface. We are now ready for full-fledged enrollment.

#### **IV) Research Project Reports**

- (1) Name: PoSHAN policy process survey
  - Booklet of findings of PoSHAN Round I survey
  - District briefs for 21 study districts

#### **V) Human and Institutional Capacity Development**

The objective of the one-month training for the field and clinical teams in March-April 2015 was to equip them with the skills, knowledge and competencies to conduct the Afla Cohort study activities, and collect accurate and complete data, following the study protocol and ethical guidelines.

The field team, including the Field Coordinator, six Supervisors and 16 Enumerators, were oriented on the study protocol and research methods, including research ethics, informed consent, confidentiality etc., and trained to use the study tool on electronic devices (tablets). They were also trained to conduct anthropometric measurements on mothers and babies. Classroom training was followed by a practice session in two non-study VDCs. Each day of training started with an assessment followed by a discussion on the issues from the previous day. By the end of the training, the supervisors and enumerators were able to understand the study protocol, the aim, specific objectives and significance of the study; able to correctly use the tools on paper and in electronic form, understand the process of consent and for administering surveys; and were aware of their roles and responsibilities as supervisors/enumerators and aware of research ethics.

The clinical team was oriented on the study protocol and research ethics, which was followed by practice sessions at Nepalgunj Medical College, in their hospital at Kohalpur. They were also assessed through pre- and post-tests.

#### **Training for PoSHAN and FLW**

Training of 11 Enumerators for PoSHAN Round III and FLW was conducted over six days from July 13-20, 2015. Of these, seven were involved in PoSHAN Round II. Of the seven enumerators conducting the FLW survey, three had experience with both PoSHAN and FLW.

Pre-training evaluation was held at the beginning of the training, with an average score of 34.5 out of 43.

Day 1 -The training began with an introduction to the Nutrition Innovation Lab-Asia, partners involved, objectives of current research, ethics in research, the consenting process and district level questionnaire.

Day 2 - Began with a quiz and review of the previous day, followed by questions, clarifications and discussion on the district and ward-level process and protocols. Tablets were also introduced on the second day.

Day 3 - Started with a review of the second day. Data collectors practiced doing interviews among themselves, using the tablets. Mock interviews were conducted to familiarize them with the questionnaire and to check skip patterns in the tablet.

Day 4 - Spent going through the reporting forms and format with the enumerators and supervisors. The entire process of data collection was covered.

Day 5 – Allocated to field testing/practice. A total of 24 interviews were conducted. Five interviews were conducted at the district level with the various officials—health-2 interviews, livestock-2 interviews and agriculture-1 interview. One health personnel interview was conducted at the Health Post level and at the Sub-Health Post level, and 17 were held at the VDC level (FCHV-14 and Ward Citizen Forum-3).

Day 6 – Discussed issues/challenges faced during the field testing. The post-training evaluation was conducted at the end of the training with an average score of 38.