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Nutrition Collaborative Research Support Program Nutrition/CRSP – Asia

Implementation Plan FY2011/12 (Year 2)



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Nutrition Collaborative Research Support Program
Nutrition/CRSP – Asia

Implementation Plan
FY2011/12 (Year 2)

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Nutrition Collaborative Research Support Program – Asia

IMPLEMENTATION PLAN 2011/12 (Year 2)

Foreword

The mission of the Nutrition Collaborative Research Support Program - Asia (N/CRSP-Asia) is to discover how policy and program interventions can most effectively achieve large scale improvements in maternal and child nutrition. Bringing together resources from host country institutions and US universities, the N/CRSP-Asia emphasizes operationally relevant research that can support national governments across Asia in their attempts to improve nutrition, health, and agricultural productivity. The Management Entity (Tufts University) works collaboratively with a network of US partners, including the Schools of Public Health at Harvard University and Johns Hopkins University, the College of Agriculture at Purdue University and the College of Agricultural, Environmental, and Natural Sciences at Tuskegee University. It also has formal partnerships with private sector entities (Development Alternatives, Inc.), and non-governmental agencies (including Nepal Technical Advisory Service and Helen Keller International). Program activities are funded under grant contract AID-OAA-L-10-00005 from the United States Agency for International Development (USAID).

Nutrition CRSP - Asia

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1. Introduction

This report provides the plan of work for Year 2 of the Nutrition Research Support Program (N/CRSP)--Asia, covering the period Oct 5, 2011 to September 30, 2012. The Nutrition CRSP is a new kind of CRSP; it represents a novel model for focusing US-supported research on food and nutrition issues in developing countries. There is, i) a geographic focus (in close alignment with USAID's *Feed the Future* priority regions and countries), rather than a global representation of activities; ii) an operational focus (applied rather than discovery science), iii) a focus on country-ownership (supporting research that informs nationally-defined priorities in food and nutrition), iv) a focusing of resources on large grants to work at scale (rather than many small grants supporting experimental or pilot activities), and v) building capacity for analysis and research not only through formal education but engagement of local partners at all levels of the research agenda. In other words, the Nutrition CRSPs (both Asia and Africa versions) are fully aligned with USAID global strategy.

Tufts University's Friedman School of Nutrition Science and Policy was awarded the Nutrition Collaborative Research Support Program (N/CRSP) for Asia in October 2010 as well as the N/CRSP for Africa. The Friedman School serves as the management entity (ME) for both activities, in close partnership with several US university partners – Tuskegee, Purdue, Johns Hopkins, Harvard – as well as Development Alternatives, Inc. This core team of partners manages the CRSP's research and capacity-building resources in a manner that will allow for the generation of i) empirical evidence of what works at scale (through applied research), and ii) enhanced institutional and human capacity in Asia to conduct research and implement integrated nutrition activities in future years.

This Year 2 implementation plan describes how the team seeks to achieve the multiple objectives of the Nutrition CRSP-Asia, by building capacity and conducting research that assesses agriculture, health and nutrition interventions whose synergies and delivery methods can help households, communities and governments meet maternal and child health needs. There is still very limited, rigorous empirical evidence to support the widespread assumption that higher productivity and diversity of agricultural outputs automatically supports enhanced maternal and child nutrition outcomes. The N/CRSP represents an opportunity to provide a research base for integrated agriculture-nutrition interventions. N/CRSP-Asia will undertake applied research to ascertain the effectiveness of various approaches to linking agriculture and nutrition, pursuing research around a range of menus of interventions implemented in various ways, in diverse socioeconomic and agro-ecological contexts (in the first instance, in Nepal). N/CRSP-Asia's vision of success is a set of discoveries that can be quickly translated into policy and practice leading to notable gains in agriculture, health and nutrition programming, with impacts demonstrated not just program by program, but supportive of enhanced outcomes across the globe as new findings are adopted nationally and internationally.

2. N/CRSP Governance and Management

The N/CRSP-Asia represents a research program that is responsive to the Nepal's priority nutrition, agriculture and health, and adequately supports human and institutional capacity

building for enhanced research and policy analysis within the country. Thus, the ME and its core partners seek to foster partnership with Nepal (and other Asian) universities, think tanks, research organizations, and centers of policy formulation within government, as well as with non-governmental organizations (NGOs), national agricultural research institutions, other CRSPs operating in Nepal, and the private sector. To oversee the complex range of scientific studies, training and education activities, institutional collaborations and global communication of results, N/CRSP is governed by an active Board of Directors, and taps into the expertise of a world class group of technical advisers.

2.1 Governance and Management Activities

In Year 2, the ME will continue to engage with its Board of Directors and the (global) Technical Advisory Group (TAC). At least one meeting of both will take place during the year.

2.2 Inactive Members of BoD and TAC replaced

During this period, additional effort will be put into seeking replacement members for those individuals who have been unable to commit to the process so far. Several individuals have been contacted and they have expressed their willingness to play an active role in N/CRSP governance. Formalization of their involvement will take place early in Year 2.

2.3 Nepal-based Technical Advisory Committee established

At the country level, a Nepal-Technical Advisory Committee (N-TAC) will be established and meet for the first time early in FY12, with a second meeting planned for early to mid-2012. Ongoing interaction via the workspace (between face-to-face meetings) will allow for key questions or problems to be discussed in real time with important stakeholder groups.

2.4 Y2 CRSP Research Funds Awarded

The ME will continue to focus on timely reporting (from its awardees and other partners, and from the ME to USAID), and set in place mechanisms for quality oversight of financial systems and reporting among awardees in country. Similarly, the ME will ensure appropriate participation in global CRSP directors meetings, other scientific fora offering venues for presentation of N/CRSP plans and early findings, and fuller engagement with USAID and other donor dialogues around the evolving agenda of linking agriculture and nutrition.

Early in Year 2, the ME will work with the awardees of the Year 1 RFA funds to contract additional research resources to support an appropriate level of primary data collection across Nepal. Since the awarding of Year 1 RFA funds (to Johns Hopkins University in partnership with the Nepal Technical Advisory Group and the Nepal Nutrition Intervention Project – Sarlahi), preliminary work was conducted to determine survey locations, sample size and research design. It was concluded by both ME and the awardees that the initial sum awarded in Year 1 would be too limiting to achieve the scale of research desired -- since travel and other logistics costs are far higher than originally assessed. Thus, Year 2 funds will to be added to those awarded in Year 1 without rebidding.

The ME will continue to work with the AOTR to engage as appropriate with additional missions in Asia and beyond in pursuing potential Associate Awards under the N/CRSP mechanism. As

interest grows globally in the N/CRSP activities, expressions of interest can be expected to grow in number and the time required for interaction and then response to defined and funded activities will also grow. This has to be planned for, in collaboration with the ME's core partners to ensure timely and quality responsiveness of the N/CRSP to each request for information or assistance.

2.5 "Lancet Series" preparation workshop held

During Year 2, planning will be initiated for a 'next Lancet Series' by the end of the N/CRSP's grant period on Integrating Agriculture and Targeted Nutrition Actions to achieve Improved Maternal Nutrition and Reduced Stunting in Children Under 2. That is, one goal of the overall research is to develop a solid, empirically-based body of knowledge that can form a core of new research papers in this domain, ideally published in the form of a 'special issue' of an impactful journal such as The Lancet. Such initiatives take time and resources. As a result, the ME will a) engage with potential donors beyond USAID to build interest and (hopefully) commitment to supporting such a vision, b) engage with researchers working globally in this domain to assess and promote potential non-N/CRSP contributions to such an endeavor, and c) ensure that any such activity is pursuing with equal participation of developing country partners. In this light, a first research and planning workshop will be organized in London (the Lancet being a UK publication) to build a foundation of interest in, and commitment to, the vision of such an end-point outlet for the N/CRSP's operations research.

2.6 Proceedings/presentations from Lancet workshop disseminated

The papers presented at such a workshop would not only guide thinking on research questions and methods for ongoing data collection, but the presentations will be formalized for submission to a journal for potential publication (as well as posted in draft form on the N/CRSP website).

2.7 N/CRSP website reviewed/updated

During Year 2, the N/CRSP's website will be assessed in terms of its functional capabilities in, a) dissemination of ideas and findings, b) promotion of dialogue around issues and thinking core to the N/CRSP research questions, and c) supporting the growth of a community of practice (active interaction among researchers and policymakers in disparate locations). Necessary upgrades and redesign of features will be carried out.

2.8 Nutrition highlighted in CRSP Council outputs

The CRSP Council has initiated a process of cross-CRSP collaboration and the promotion of potential synergies. Several activities are involved, including common database management, common mutually-supportive presentation materials, and facilitated interaction among CRSP investigators. The ME of N/CRSP will seek to ensure that nutrition is appropriately included, and where possible highlighted, in materials prepared for presentation to Congress, BIFAD, USAID and other interested stakeholders. N/CRSP-Asia will ensure participation in key CRSP council meetings during Year 2 to ensure that nutrition and its links to agriculture and food security remain high on the Council's agenda.

Summary of Y2 Outputs – Governance and Management

- 2.1 At least one BOD and one TAC meeting held before October 2012.
- 2.2 Inactive members of the BOD and TAC replaced with appropriate new members.
- 2.3 Nepal-specific Technical Advisory Committee (N-TAC) established/meeting held.
- 2.4 Year 2 research funds awarded.
- 2.5 Pre-“Lancet Series” workshop held in London before October 2012.
- 2.6 Proceedings or presentations from Lancet workshop prepared for publication.
- 2.7 N/CRSP website reviewed/updated.
- 2.8 Nutrition highlighted in several CRSP council/Knowledge Management outputs.

3. Nepal-Based Research

A recent review of existing literature on agriculture-nutrition linkages considered 7,000 studies covering the period 1990 to 2010; it concluded that a) only 23 met inclusion criteria based on appropriate methodology applied, and b) there was “very little evidence available on changes in the diet of the poor” and “no evidence of impact on prevalence rates of stunting, wasting and underweight among children under five”.¹ Few of those studies even tried to present rigorous counterfactual analysis of claimed impacts on consumption and nutrition. In other words, there is scant empirical evidence supporting the widely-held conventional wisdom that greater productivity in agriculture, including and diversity of products produced and/or marketed, axiomatically supports enhanced nutrition outcomes among small children and their mothers. The conclusion is that this information gap needs urgently to be filled. N/CRSP-Asia focuses explicitly on this domain. The three overall research questions can be broadly defined as follows:

1. *What added value does agriculture bring to the achievement of nutrition goals if integrated with nutrition/public health programming?*
 - 1.1. Does it matter what ‘kind’ of agriculture (gardening, irrigated staple production, livestock production, export crop marketing, or combinations of these?)
 - 1.2 Does it matter (to nutrition outcomes) who in the household makes decisions and controls inputs and outputs of agricultural and value-chain investments?
 - 1.3 Does increased farm diversity (crops or marketed products) improve household, women’s or child diet diversity? And which of these reduce or prevent stunting?
2. *Does geographic co-location of interventions (in agriculture, nutrition, or health) achieve the same impacts on stunting as integration of these elements within programs?*
 - 2.1. Does it matter if agriculture interventions are ‘layered’ over functioning nutrition and health interventions, or do intervention packages work best if implemented simultaneously in all locations (which has implications for scaling up)?
 - 2.2. Can integrated messaging allied to interventions achieve greater gains when messages (behavior change communication) cross refer in the agriculture, nutrition and health

¹ Masset, E. et. al. 2011. *A systematic review of agricultural interventions that aim to improve nutrition status of children*. Brighton, UK: Institute for Development Studies. A report to UKaid.

domains, b) common messages are delivered by multiple platforms separately, and/or c) messaging is achieved separately by sector, but more effectively than in the past?

3. *What aspects of 'nutrition packages' generate greater/faster/more sustained gains in infant stunting and/or maternal undernutrition?*
 - 3.1. Controlling for maternal height and education, income, etc., do integrated interventions succeed better in a) preventing onset of 'new' stunting, b) reducing prevalence rates of stunting (of children <2y from baseline to endline), c) allowing recovery of formerly stunted children (<2y) by the age of 5y or 8y, and/or d) reduce incidence of stunting in <5s (resulting in fewer cases of severe and moderate, and more of mild and normal)?
 - 3.2. What aspects of integrated nutrition and health packages, or integration of agriculture and nutrition and health programming, are best at a) reaching/involving adolescent girls and young women, b) improve their knowledge/understanding of key nutrition, health and agriculture issues, and c) measurably improve the nutritional status of this particularly important beneficiary group?

Specific research hypotheses will be finalized around these questions in the first months of year 2, and additional questions will be formulated as appropriate in collaboration with the mission's implementing partners and Nepal government priorities—questions that are likely to be answered by the rich panel dataset that will be created over multiple years in Nepal. N/CRSP faculty from Boston, and the in-country representative, will hold a series of meetings with INP leadership, IFPRI researchers (responsible for the INP baseline and endline data collection), and those responsible for M&E data collection at USAID/Nepal to discuss collaboration on data collection – including potential for division of labor, complementarity of data collected and methods used, and key questions to be posed across multiple operations research activities.

Beyond issues addressed through panel survey sites, additional questions will be tackled through a) analyses of secondary data and/or b) 'discrete' studies that will enable researchers to understand 'how' programs best achieve defined goals (applying, for example, program theory framework analysis), and what solutions may be applied in different contexts to overcome local constraints to implementation, resolve local disputes over priorities, and tackle disincentives to integrated action or collaboration among local stakeholders (public sector as well as community-level actors). Discrete study topics will be defined collaboratively with Nepali stakeholders (through discussions at the planned Stakeholder Forum) and interaction with local researchers.

At least one research-focused workshop (for core partners as well as technical specialists as appropriate), will take place early in Year 2. A meeting in Boston on research priorities and questions, held in September 2011, was deemed to be especially valuable by all core partners who participated as a way to promote scientific discussion on research questions, methodology and the planning of publications. Additionally, partners and field researchers will make at least 3 presentations on N/CRSP Asia work in appropriate scientific fora, with a view to disseminating early findings (outreach), engaging with researchers working in similar fields (collaboration),

and, where warranted, supporting Nepal and/or other Asian human capacity development (in writing and presenting professional research materials). It is important to note that a recent meeting in London hosted by IFPRI (May 2011) on research design issues relating to integrated concluded that “the next step is to bring the agriculture, nutrition and health sectors together in designing common approaches to evaluating interventions and using common metrics for assessing these approaches.”² The idea of an annual meeting to discuss metrics and methods that link agriculture health and nutrition, and to review research progress was promoted—a meeting that the N/CRSPs could facilitate.

Operations Research Initiated

3.1 Research workshop for core partners

The research design for Nepal is close to being finalized. It will be formalized at a core partner research workshop in Baltimore in December 2011, and presented for discussion with Nepal-based researchers during January 2012. It is already clear, however, that the approach taken cannot be a formal Randomized Control Trial since the N/CRSP has no control over the choice of locations being targeted by USAID/Nepal’s new Integrated Nutrition Program (INP) or other USAID-supported programs, such as its ongoing NEAT activity (2011-2013) or proposed Feed the Future program (to start possibly in 2013), or over the sequenced (randomized) roll-out of activities under any of these programs.

Furthermore, this operations research is focused less on the efficacy of defined individual interventions and more on a) the effectiveness of packaged interventions and b) the mechanisms by which integrated interventions achieve defined goals. Thus, the research will focus on generating actionable longitudinal panel/cohort data that will be stratified (by region/agro-ecology), include a counterfactual design (collecting data in matched non-intervention districts neighboring intervention districts), and will allow for study of ‘overlapping’ (co-location) of multiple types of intervention in the fields of agriculture and nutrition/health over a period of several years.

3.2 Study design finalized, presented at scientific workshop

The sites will be purposively selected to cover the central terai, eastern and western mountains, and eastern and western hills, and cover the presence or absence of USAID-supported interventions of interest; that is, districts and VDCs will be selected based primarily on the roll out of the INP, and hopefully also some of USAID’s NEAT activity sites. It may also be possible to include additional non-USAID intervention sites, such as Heifer International’s activities. For example three districts (one Terai, one Mountains and one from the Hills) will be selected where INP activities are being rolled out in Phase 1 (Suaahara roll out plan). Districts will also be selected where INP in a modified form is to be rolled out, as well as where *no* INP-related activities are implemented or planned; thus, a true counterfactual design will be possible (matched by agro-ecology and location). Districts will be the unit of selection; however,

² IFPRI (2011) *Measuring the effects of integrated agriculture-health interventions*. Report of a Leverhulme Centre for Integrative Research on Agriculture and Health (LCIRAH)/IFPRI conference, May 12-13 2011, London. http://www.lcirah.ac.uk/conference.php?event_id=5

consideration needs to be given to differences that exist at the level of the VDC (smallest administrative unit in Nepal). Within districts, the number of VDCs that are part of the intervention roll out will be enumerated. Sampling methods will be determined and sample size estimates (within each cell) will be computed during the research meeting planned for December 2011.

In addition to the defined 'intervention' arms proposed, N/CRSP-Asia will seek to establish panel data collection where INP and NEAT are collocated in 2 VDCs of Nawalparasi district (in comparison to 2 VDCs of Nawalparasi where INP will be rolled out in VDCs that have been exposed to the a Heifer International livestock improvement program). The focus of the added arm would be to study the effect of, a) two different kinds of agricultural interventions, b) and INP overlap on those compared with c) areas with no INP. These '2' sets of VDCs in Nawalparasi will be matched to 'non' intervention communities, ideally in the neighboring district where INP will not be introduced.

N/CRSP-Asia will link closely with the INP and other USAID/Nepal programming initiatives (such as NEAT3 where possible). While the DHS 2011 and the specific implementing partners responsible for INP and NEAT will generate valuable baseline data, the N/CRSP will complement these data in its specific research locations to ensure, i) statistical representativeness when exploring various 'arms' of interventions (such as different configurations of packages within agriculture, within nutrition and within health, or different approaches to delivery of services, inputs or information); ii) data are collected that go above and beyond the minimum required by implementing partners to enable the CRSP to answer broader questions (which may include, say, dietary patterns of adolescent girls, prevalence of adult male anemia, or husbands' perspectives on household food security (versus their wives'), and so on); and iii) support discrete studies that can answer location-specific questions that may be relevant to certain ethnic groups or agro-ecologies but not all.

Discussions have started with USAID/Nepal and will continue with appropriate implementing partners on which indicators are to be collected in relation to the Nutrition CRSP—a meeting on this topic is planned for November 17, 2011. Appropriate sampling and survey methods will be applied with a view to maximizing the pool of relevant data that can help answer multiple sets of questions simultaneously. That means that the N/CRSP will ensure that relevant *additional* data are collected to enhance baseline studies. The ME and its partners will therefore collaborate closely with the implementing agencies involved to assist them, as appropriate, in applying relevant analytical tools to measure impact, trainings in survey approaches, and determining ways to roll out activities in 'researchable ways'. It can also assist in data collection on the real costs of doing business (roll-out, scale-up, generating evidence of impact, etc.) However, the N/CRSP will not collect M&E data 'for' INP implementing partners, or for any other intervention included in the research.

The teams will derive a common understanding of operational definitions and where possible determine how program-specific M&E systems could dove-tail with research-focused data collection. Since each activity will collect baseline data the N/CRSP will complement data

collected with additional data that would otherwise not be collected by the implementing partners. In addition, the Nutrition CRSP will capitalize on existing panel surveys that have been on-going in Nepal unrelated to programmatic interventions including panel surveys that have been conducted by Heifer International/Tufts University. Nutrition CRSP will also work with Johns Hopkins and the RFA partners to consider building a 'living laboratory' replicating work that has been undertaken in the Terai in similar panel sites in districts to be targeted by NEAT, INP and FTF.

3.3 IRB review

Issues of Institutional Review Board (IRB) clearance in Nepal and at core partner universities will be taken up during discussions both in Nepal and among principal investigators before the end of 2011, with a view to making IRB submissions early in 2012. Substantive discussions on appropriate survey tools will also be pursued, including use of biomarkers for micronutrient status (which nutrients, what assessment methods), as well as consideration of the appropriateness of assessing DALYs, QALYs or other standardizing metrics to assess the welfare effects of integrated versus individualized interventions (as recommended at the LCRIAH/IFPRI (2011) workshop.³ It is also planned to discuss ways to identify likely transmission mechanisms that link agricultural production gains with nutrition outcomes.

3.4 Panel data collection initiated in at least 6 field sites

Primary data collection will get underway in early 2012, after agreement with INP leadership, USAID/Nepal, IFPRI and others on the initial districts to focus on (given that INP is planned to roll out operations in 6 to 8 districts in March-April, with the remaining 12-14 districts completing roll out by the end of 2012). Matched districts will be identified in collaboration with INP and its location-specific implementing partners. The original award will be topped up with resources from the Y1 budget extension, with Y2 funds being added to that total during 2012. This increase in field research budget is important given that initial rough calculations of data collection costs are significantly higher than originally envisaged.

3.5 Stocktaking Reviews and Discrete studies

In addition to panel data collection, 5 discrete activities are envisaged to answer more narrowly-defined, priority research questions:

- 3.5.1 Stocktaking review (No.1) of curricula used in Nepal for training in advanced degree programs in public health and medicine that relate to nutrition (carried over from Year 1 and funded out of Y1 budget).
- 3.5.2 Stocktaking review (No. 2) of curricula in Nepal for training in agriculture that relate to nutrition (also carried over from Year 1 and funded out of Y1 budget).
- 3.5.3 Discrete Study (No. 1) of Village Health Worker capacity, knowledge and views (conducted around the time of their training under INP, focused on knowledge of nutrition and means of BCC, perceived needs at local level, constraints to (or incentives for) integration with other sectors at local level).

- 3.5.4 Discrete Study (No. 2) of the management of integrated activities at district level (3 to 6 districts identified where ministries are known to cooperate on the ground). What incentives for collaboration exist, mechanisms for joint action, constraints and challenges to be overcome, capacity gaps needing action, etc.?
- 3.5.5 Discrete Study (No. 3) of the Defecation-Free Village concept. Policy process, communication mechanisms, key informant and household interviews in early adopter villages, and 'evidence' to be collected on effectiveness.

3.6 Secondary Data Analyses

A series of N/CRSP-relevant research questions will be framed early in Year 2 that lend themselves to analysis of existing (secondary) datasets, including national agriculture, consumption and income surveys, health assessments, the DHS survey, etc. Where it makes sense for core universities to partner with Nepal research entities (such as IIDS) to conduct such macro-level large dataset analyses, this will be considered.

3.7 Desk reviews

A set of 4 (Boston-based) desk reviews on issues relevant to N/CRSP will be prepared and posted on the website to encourage deeper thinking on issues that cut across disciplines and wider discussion of knowledge gaps and potential research approaches aimed at filling them:

- 3.7.1 What is known about the transmission mechanisms for improved nutrition based on interventions in agriculture, health and nutrition in Nepal.
- 3.7.2 What research methodologies are commonly applied in the assessment of integrated programming approaches.
- 3.7.3 Updated literature review of empirical evidence on programs that seek to achieve nutrition through investments in agriculture.
- 3.7.4 Updated literature review of constraints to young child feeding in Asia with respect to complementary foods.

3.8 Presentations (research dissemination)

At least 3 presentations will be made by representatives or partners on the work of N/CRSP-Asia at scientific meetings where dissemination of concepts and findings will reach a wide and receptive audience.

Summary of Y2 Outputs – Nepal Research

- 3.1 Operations Research workshop for core partners held.
- 3.2 Study design for Nepal finalized (and presented at research symposium in Nepal)
- 3.3 IRB review completed before end second quarter 2012.
- 3.4 Panel data collection initiated in at least 6 research sites.
- 3.5 Stocktaking reviews and discrete studies defined and initiated.
- 3.6 Secondary data analyses undertaken/2 draft papers prepared.
- 3.7 Desk reviews leading to at least 4 working papers/briefs drafted and posted.
- 3.8 At least 3 presentations made on N/CRSP-Asia work at scientific meetings.

4. Capacity Building

The ME will take the lead in promoting assessments of institutional and individual needs in Nepal with regards to capacity building. This will include assessing the results of curriculum review gaps (mentioned in section 3 as an activity carried over from Y1), as well as interaction with Nepal-based academic institutions on potential curriculum re-design and enhancement (including Pathan Academy, IIDS, Tribuvan University, the Institute of Medicine, etc.), and various academic offerings provided.

4.1 Recommendations on nutrition curriculum enhancements

Based in part of the stocktaking reviews to be completed in 2012, complemented by a series of in-person interviews with faculty at Nepali institutions

4.2 Doctoral Study at Tufts

One Nepalese student currently finishing her MPH in the US has been identified, as a strong candidate for doctoral studies that could be supported by the N/CRSP if she is ultimately accepted into the Tufts degree program for September 2012. Any additional doctoral level student support by core partners is identified in their individual workplans.

4.3 Two-week intensive training in Bangalore

Four individuals will be identified for the January 2013 Bangalore-Boston 2 week intensive training in nutrition research methods (in addition to the 6 identified for 2012).

4.4 Tufts Master's Degree program in collaboration with the UAE

Two Nepalese individuals will be enrolled in the Tufts degree program with Ras al Khaimah (UAE), for matriculation in September 2012 (in addition to the two already enrolled during 2011). Only qualified students can be admitted, and while Nepali students would be encouraged to apply, there is no guarantee that they would be admitted unless appropriately qualified. The stakeholder forum in Kathmandu, proposed for November 2011, will be a good venue for widely sharing the availability of these kinds of training/educational opportunities. Additional methods for identified appropriate students will be explored in Year 2.

4.5 Nepal Government workshop on Evidence-Based Policy Making

At least 30 Nepalese government staff will be invited to attend a training workshop on Evidence-Based Policymaking for Nutrition in Nepal. This will provide a space for personnel from multiple government ministries to interact on issues relating to integrated programming: How are decisions made at central level? What level of scientific evidence underpins choices and funding? What evidence would suffice to change conventional wisdom or conventional program designs? What constraints (disincentives) exist for line ministries to collaborate horizontally at central level? What constraints exist for enhanced vertical integration (with the districts)? This workshop will provide an opportunity for focus group discussions and structured individual interviews of participants aimed at enhancing understanding of how government decisions are made and what opportunities exist for overcoming barriers to integration. The latter insights will form the basis for a research paper.

4.6 Workshop on key issues in public health nutrition in Nepal

There is a need for greater exposure of practitioners, policymakers and researchers in Nepal to the wider implications of nutrition going beyond clinical manifestations of deficiencies. The 'public health' lens of nutrition is poorly understood. This workshop will enable professionals from multiple disciplines to interact on the core concepts that cut across disciplinary barriers while helping identify common research and operational priorities within disciplines (and ministries) that directly impact on nutrition across Nepal.

4.7 Grant writing workshop

A 2 or 3-day proposal writing workshop will be held primarily for researchers in nutrition-related fields in the summer/early Fall of 2012. This will help enhance the quality of RFA responses in future years, while building capacity of multiple Nepalese institutions (dealing with public health, agriculture, political science, or economics) to identify and articulate key research questions and propose rigorous methods to study them.

Summary of Y2 Outputs – Capacity Building

- 4.1 Recommendations made on nutrition-relevant curriculum enhancements in Nepal.
- 4.2 One Nepalese student enrolled in doctoral study at Tufts (N/CRSP-Asia funded).
- 4.3 Four Nepalese identified for BBNC training in India (January 2013).
- 4.4 Two Nepalese identified and enrolled in Tufts' Masters degree program in 2012.
- 4.5 Forty government officials attend a workshop on Evidence-Based Policymaking for Nutrition in Nepal.
- 4.6 Forty professionals attending a training on issues in public health nutrition.
- 4.7 Forty researchers/professionals attending a training on grant writing and research proposal development.

Appendix 1a: Activities and Outputs, N/CRSP-Asia Year 2 (FY2012)

Theme (a): Scientific Research				
Outcomes	Indicator Number	Output Indicators	FY 2012 Targets	FY 2012 Actuals
Outcome 1: Improved host country nutrition and food security monitoring, analytics and surveillance capacities	N/CRSP	1. Number of U.S. and host country institutions that have gained enhanced capacity in nutrition research, monitoring and surveillance methodologies, nutrition information systems, and/or nutrition interventions with USG assistance	3	
	N/CRSP	2. Number of food consumption and/or nutrition surveys undertaken, or reported on and disseminated	4	
	N/CRSP	3. Number of U.S. or host country institutions or individuals having completed a nutrition assessment, survey or gap analysis.	6	
Theme (b): Human and Institutional Capacity Development				
Outcomes	Indicator Number	Output Indicators	FY 2012 Targets	FY 2012 Actuals
Outcome 2: Improved host country academic, technical and research capacity in nutrition, health and agriculture	N/CRSP	4. Number of people trained in child health and nutrition (nutrition science, dietetics, public health nutrition) through USG supported programs (longer term)	0	
	N/CRSP	5. Number of people trained in child health and nutrition (nutrition science, dietetics, public health nutrition) through USG supported programs (short term)	69	
	N/CRSP	6. Number of people identified for training in child health and nutrition (nutrition science, dietetics, public health nutrition) through USG supported programs (longer term)	8	
	N/CRSP	7. Number of US and host country institutions with enhanced capacity to assess, plan, design, implement, monitor and/or evaluate nutrition programs, policies and practices	3	
	N/CRSP	8. Number of U.S. and host country institutions and individuals who have gained enhanced capacity in clinical, operational, agricultural, translational and/or public health nutrition research aimed at the reduction of malnutrition with USG assistance	30	
	N/CRSP	9. Number of peer-reviewed journal articles co-authored with host country institutions and others in country with USG assistance (submitted or published)	2	
	N/CRSP	10. Number of brief articles and presentations co-authored with host country institutions and others in country with USG assistance	5	

Appendix 1b: Additional Activities and Outputs, Year 2 (program governance/management)

Theme	Activity	Output/Deliverable	Date Planned	Date Achieved
Governance and Management				
	Nepal TAC established	NTAC members identified, first meeting	Nov 2011	
	Nepal TAC interaction	Second meeting of NTAC	May 2012	
	Governance oversight of CRSP process	3rd meetings of BOD and TAC	March 2012	
	Governance oversight of CRSP process	4th meetings of BOD and TAC	July 2012	

Appendix 1c: Contribution of Core Partners to overall activities, Year 2 (FY 2012)

Main Activity	Sub Activity	Partners					DAI
		Tufts	Harvard	JHU	Tuskegee	Purdue	
Section I: Capacity Building							
Identification of students		X	X	X	X	X	
Stock taking	Curriculum, teaching, research gaps	X			X	X	
	Training needs	X			X	X	
	Private sector initiatives					X	X
Short term training	Research Design and Survey Methods	X	X	X			
	Nutritional Epidemiology			X			
	Grant writing	X					X
	Boston-Bangalore Collaborative	X	X				
Workshops in Nepal	Public Nutrition Issues	X	X	X			
	Evidence-based Policymaking	X		X			
	Scientific symposium	X	X	X			
Workshop in London	'New' Lancet series preparation	X	X	X	X	X	
Degree training	MS/MPH	X		X	X	X	
	Ph.D.	X			X	X	
Section II: Research							
Identification of priority research areas		X	X	X	X	X	
Synthesis of existing programs and projects		X		X		X	
Methodology reviews			X			X	
Primary data collection		X	X	X			
Secondary data analyses				X		X	
Topic areas for primary data collection and/or secondary data analysis	Dietary patterns		X	X			
	Food Security		X	X			
	Anthropometric		X	X			
	Biochemical		X	X			
	Socio-economic		X	X			
	Econometric modeling					X	
	Analysis of NNIPS cohort			X			
	Implementation/process evaluation	X		X			

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