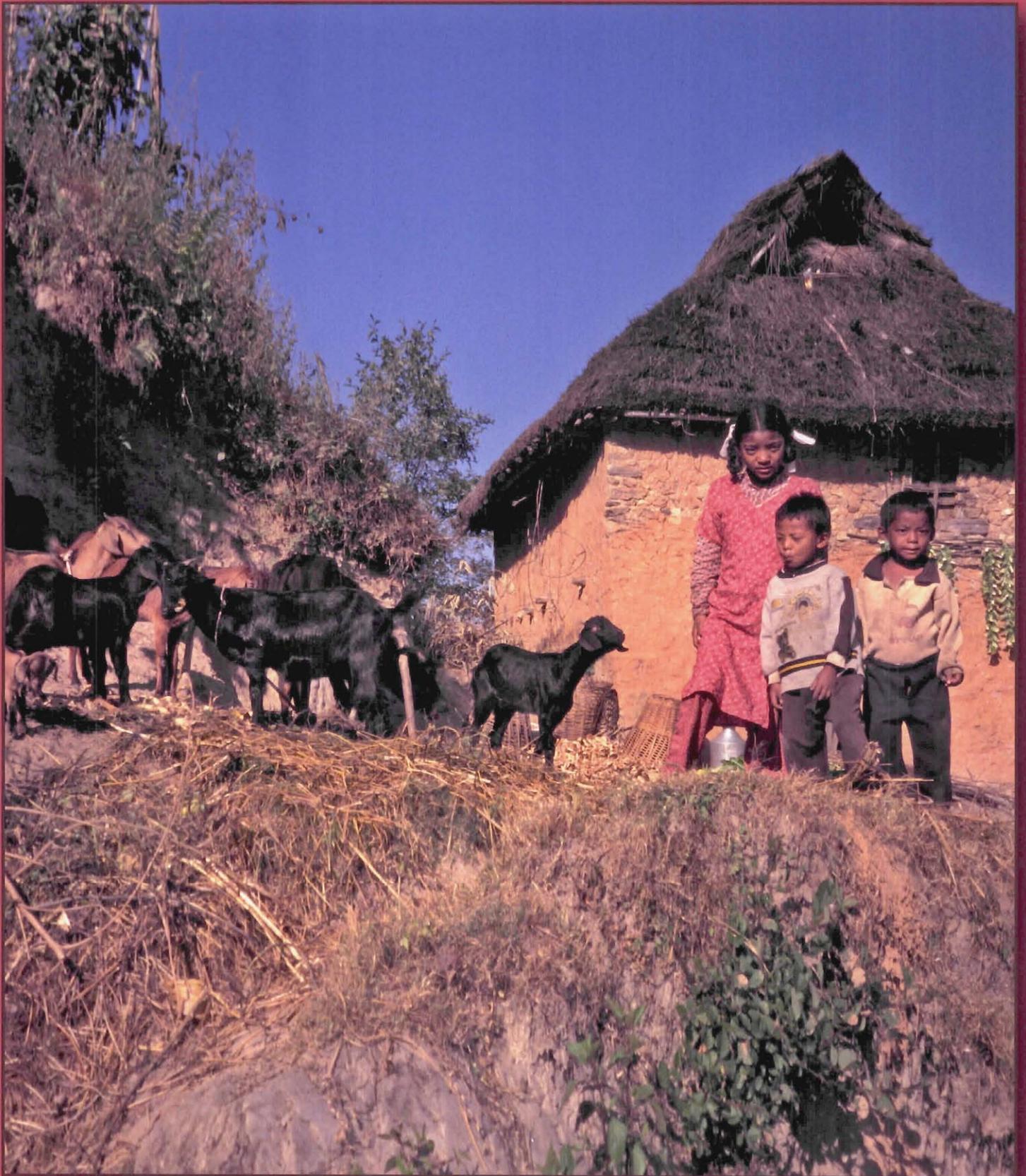
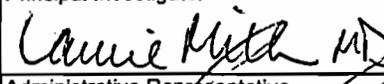
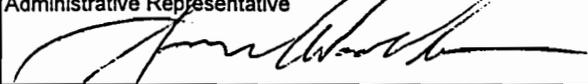
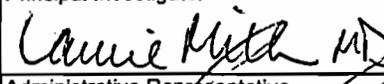
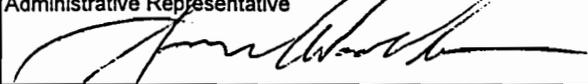
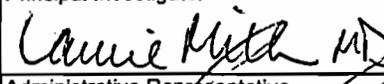
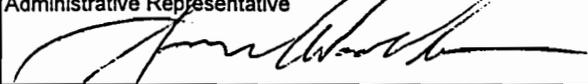


Animal Source Foods For Nepali Children



Global Livestock Collaborative Research Support Program

1. Region/Topic Code Nepal/ASFs	3. Project Title Animal Source Foods for Nepal Children																																																																																							
2. Project Years 2004-2007																																																																																								
4. Principal Investigator: Laurie Miller, M.D. Associate Professor of Pediatrics Box 286-New England Medical Center Tufts Univ School of Medicine 750 Washington St. Boston, MA 02111 617-636-4285 fax:617-636-8388 email:lmiller1@tufts-nemc.org	5. U.S. Institution/Administrative Officer: Gerald Wodehouse Associate Director, Grants and Contracts Administration Tufts University 136 Harrison Avenue Boston, MA 02111 Phone: (617) 636-6550 Fax: (617) 636-2917 gerald.wodehouse@tufts.edu																																																																																							
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ABSTRACT AND NARRATIVE

Abstract

More than 50% of children in Nepal are moderately or severely malnourished. Even more suffer from multiple micronutrient deficiencies. Increased consumption of Animal Source Foods (ASFs) has significant potential to help alleviate these nutritional deficits. We propose to investigate the relative significance of several key barriers limiting ASF consumption by Nepali children, as well as the efficacy of selected interventions to overcome these obstacles. As these barriers are common throughout South Asia, it is expected that the results of this study will be transferable throughout the region.

Significant barriers to ASF consumption by children were identified with input from local, regional, and international government and non-government organizations working in Nepal in pediatrics, child nutrition, agricultural and community development, and poverty alleviation. Importantly, direct input was also obtained through interviews with members of rural women's groups at their homes. Key barriers identified include: 1) limited household access to ASFs, 2) limited household income, 3) inadequate knowledge of nutrition, and 4) gender constraints in household resource allocation. Therefore, in partnership with Heifer International Nepal and local women's groups, interventions will be introduced to: 1) optimize livestock production (promote best management practices, decrease zoonotic and other diseases, increase product wholesomeness and value), 2) increase income (diversify household livestock enterprises and dairy cooperative business activities), and 3) enhance nutrition, health, and gender awareness (facilitate Participatory Action Research and promote health education). Interventions will be introduced holistically, with the explicit aim of improving child health and nutrition via increased ASF consumption.

Pediatric house officers from B.P. Koirala Institute will collect serial information on household and community demographics, income, nutrition awareness, and dietary practices. This data will be related to changes in children's health, growth, and nutritional biomarkers. Novel and traditional evaluations will be used (anthropometrics, global health assessment, infectious disease burden [including quantitative parasite load and malaria], hemoglobin, zinc, vitamin B12, vitamin A, TSH, salivary cortisol, mineral analysis of shed deciduous teeth). Treatment of geohelminth infections will control for this confounder of children's health and nutritional status. Hierarchical regression models will be used to determine the effects of defined interventions.

The study population will be drawn from the rural municipality of Itahari, located in Nepal's Terai region (southern plains bordering India). The population was selected because of 1) similarity of the study group to rural populations throughout Nepal and South Asia, 2) the existence of rural womens' groups, local NGOs, and a dairy co-op that are already linked to organizations and institutions selected as collaborating project partners, 3) the relevance of livestock rearing, nutrition education, and microcredit/income generation strategies to this population, 4) proximity to veterinary and pediatric research centers, and 5) good security.

Tufts University School of Medicine is the lead institution for the project. The lead Nepali partner is Heifer International Nepal. Key partners and participants include Itahari community residents, five Itahari women's groups, local NGOs working with these groups, B.P. Koirala Institute of Health Sciences Department of Pediatrics, Nepal Agricultural Research Council, National Nutrition Programme, Department of Livestock Services, Lotus Opportunities, and International Centre for Integrated Mountain Development (ICIMoD). Among others, UNICEF-Nepal, UNDP-Nepal, and USAID-Nepal fully support the project.

INTRODUCTION

Malnutrition afflicts more than 200 million children throughout the world and is responsible for 50% of deaths that occur before age 5¹. 70% of the world's stunted children reside in Asia: South Central Asia has the 2nd highest prevalence of growth stunting in the world (44%)^{1,2}. Malnutrition robs young children of good health, growth, and cognitive development; its effects on these areas are lifelong and pervasive³. Malnutrition usually occurs in conjunction with multiple micronutrient deficiencies, including iron, vitamins, iodine, and minerals. These deficiencies also contribute to impaired health, growth, behavioral development, and cognition^{4,5}. Malnutrition and micronutrient deficiencies in early life permanently diminish brain size, brain DNA content, myelination, cortical dendritic growth, and neurotransmitter content⁶⁻¹².

Even a single episode of malnutrition in childhood can permanently reduce IQ, impair neurocognitive function (auditory and visual memory, perceptual ability, regulation of attention, fine motor ability), and reduce school performance (unrelated to IQ)¹³⁻²⁴. Behavioral consequences of malnutrition may be lifelong²⁵⁻²⁷. Malnourished individuals tend to be apathetic, to avoid new experiences, and to show overly emotional responses to aversive or stressful stimuli⁶. Malnutrition reduces curiosity, the major impetus for learning in children and young infants^{6,28,29}, limiting enriched experiences needed for optimal cognitive development³⁰. Furthermore, malnutrition impairs immune function, thus increasing susceptibility to infection³¹⁻³⁵.

Malnutrition is both an individual and a community problem. In a 20-year followup study in South Africa, adults who were malnourished as children showed a lack of drive, initiative, enterprise, and social maturity³⁶. The reduction in IQ caused by malnutrition also has dramatic community-wide effects, although this reduction may have no discernable effect on the individual. For example, a 5-point drop in population mean IQ reduces the number of gifted children by 50% and increases the number of children with borderline IQ by 50%³⁷. Thus, malnutrition severely limits the educational, physical, and economic productivity of the population. The cost of this loss of human capital is incalculable³⁸.

Recent theoretical and practical work in developing countries has focused attention on the links between malnutrition and economic growth³⁹. Although improved nutritional status of the population at large can fuel economic growth, the link between economic prosperity and human development is neither automatic nor obvious⁴⁰. Economic prosperity does not always translate into better lives for people. For example, previous studies have conclusively shown that economic growth and poverty reduction are not sufficient to improve the health and nutritional status of children⁴⁰⁻⁴³. Complex cultural, education, medical, and environmental factors may impede nutritional recovery even when economic conditions improve. Few programs address these factors in an integrated and holistic manner.

In an attempt to address these constraints, international aid agencies have recently called for a greater integration of nutrition and agriculture development efforts⁴⁴⁻⁴⁹. Aside from the obvious links between agriculture and food, most of the world's poor live in rural areas and are employed in agriculture. Agriculture simultaneously offers opportunities to improve nutrition and income. As women are often very active in agriculture and are generally the primary care-givers of children, efforts in this sector offer significant opportunities to improve the social well-being of both women and children⁴¹.

In rural areas, nutritional and health status depends primarily on levels of private inputs provided by households⁵⁰. An emphasis on food-based solutions to malnutrition and micronutrient deficiency is most likely to succeed by achieving dietary diversification, ready household access (rather than dependence on costly or unavailable supplements)^{51,52}, enhanced food security, and sustainability (via the economic benefits of animal ownership⁵³ and the potential ability to participate and succeed in a market environment³⁹).

From a nutritional perspective, promotion of household livestock enterprises is particularly attractive⁴⁸. Availability of household livestock offers ready access to ASFs. Benefits of ASFs are well-documented, and include the provision of high quality calories, protein, essential fatty acids, iron, fat-soluble vitamins (especially vitamins A, D, and E), riboflavin, calcium, and zinc in highly digestible and bioavailable forms^{54,55}. ASFs are the only dietary source of Vitamin B12⁵⁶. Small amounts of ASFs added to the diets of poor rural children can supply all the essential protein and micronutrients and a significant proportion of the additional calories needed to prevent poor growth, poor mental development, and general poor health⁵⁴⁻⁵⁸. Small amounts of ASFs may also improve bioavailability of important micronutrients (especially iron) in other foods⁵⁹⁻⁶². Previous work by CRSP investigators has definitively shown the importance of dietary ASFs to the health and well-being of poor children⁵³⁻⁵⁵. The next phase of

investigation is to address the barriers to consumption of ASFs among children. Preliminary investigations in Nepal suggest that these constraints are multifactorial.

We therefore propose to develop an integrated, multisectoral approach to enhancing the intake of ASFs by Nepali children. A series of community-wide interventions will be undertaken, addressing sociological, veterinary, pediatric, and economic barriers to the intake of ASFs. The interventions will proceed in an iterative manner; feedback and analysis at each stage will be used to inform the following phases. The project activities will be linked holistically, with strong communication and cooperation between sectors. Interventions and analyses will be managed by multidisciplinary teams, including stakeholders at all levels. Built-in evaluation steps will promote cross-disciplinary communication, and the comprehensive nature of the project will be emphasized at all stages through workshops, conferences, and team meetings. Quality data management and hierarchical regression analyses of component effects will allow recalibration and redesign of ongoing interventions. Research goals of the project include assessment of the impact of each component and the contribution of each component on the primary outcome measures: (1) increased consumption of ASFs by children and (2) improvement in the health and nutritional status of children. Each of the project components will be described separately; the interactions between components are depicted in Annexes 1 and 2.

PROBLEM MODEL AND PROBLEM RATIONALE

The explicit aim of the proposed project is to reduce micronutrient malnutrition within the context of a sustainable program to alleviate poverty, and to identify the variables which promote or hinder this outcome. The project has the following components: community development and capacity building, health and nutrition awareness, livestock development, and enterprise development. The project will be carried out in the Terai (plains) region of Nepal, but it is expected to be transferrable to other regions of Asia and beyond. Nepal has a population of about 25 million; the Terai is the most densely populated area of the country largely due to north-south migration and immigration⁶³.

Nepal is one of the world's poorest (GNI per capita of \$230) and least developed countries¹. The Human Development Index in Nepal is one of the lowest in the world. Nepal ranked 143rd from among 175 countries in the 2003 Human Development Report, with a Human Poverty Index rating at 70th out of a listing of 94 developing countries⁶⁴. Nepal ranks 115 out of 130 in gender development – reflecting a status of women that is one of the lowest in the world⁶⁵. Nepal is an extremely patriarchal system^{65,66} and is one of the few countries of the world where life expectancy of men exceeds that of women¹. 88% of Nepalis live in rural areas, and 73% are employed in agriculture⁶³ – most at subsistence levels⁶⁷. Rural women in Nepal are heavily involved in animal agriculture⁶⁸⁻⁷⁰. It is reported that women own only 5% of the cattle in the country and have rights to only 5% of the land yet contribute over 70% of the labor involved in agriculture and livestock production⁶⁸.

More than 50% of Nepali children under 5 years of age suffer from moderate or severe malnutrition; little improvement in these statistics has occurred over the past 23 years⁷¹. Micronutrient deficiencies are widespread. Despite widespread iodine deficiency (especially in the Terai)⁷¹, efforts since 1973 to promote salt iodination have been incomplete; only 63% of households consume iodized salt¹. Iron deficiency anemia (IDA) affects 68% of women and 78% of preschool children^{72,71}. The prevalence of IDA is even higher (88%) in young children, reflecting low iron stores at birth and subsequent inadequate intake⁷¹. Food fortification programs have had limited success⁷¹. Despite more than a decade of effort to eliminate Vitamin A deficiency by providing supplements⁷³, a recent national survey revealed that 65% of preschoolers and 58% of school age children had inadequate vitamin A intake⁷¹. Clinical symptoms of Vitamin A deficiency such as night-blindness remain common, especially in the Eastern Terai. Thus, traditional techniques to improve micronutrient malnutrition have been strikingly unsuccessful.

Attempts to improve nutrition must account for local factors which influence food use. In Nepal, cultural food beliefs about the healing or harmful nature of certain foods and their proper uses are deeply ingrained. Like other South Asian countries, foods in Nepal have intrinsic “humoral” qualities (“hot” or “cold”, or yin/yang) which determine their suitability for particular uses (treatment or prevention of illnesses) or by specific individuals (ages or genders)⁷⁴. These food beliefs do not disappear even when income improves. Intra-household food allocation in the typical Nepali conjoined household is also complex⁷⁵. Cultural factors determine food allocation⁷⁶ and food choices. Caste also determines food

choices; some castes eat a decreased variety of foods and thus run a greater risk of certain nutrient deficiencies⁷⁷. Caloric intake is clearly independent of micronutrient intake; micronutrient rich foods tend to be allocated preferentially to males⁷⁷. Individual dietary intake thus must be assessed: in both food-secure and -insecure households there may be both hungry (or micronutrient deficient) and well-nourished individuals^{77, 78}. Previous work has shown that introduction of new occupations/sources of income may favorably affect food availability but may decrease parental time to care for children^{78, 79}.

The Terai is the only food surplus area in Nepal and the area of greatest agricultural potential. The nutrients available in the soil, however, after deforestation, have been steadily mined and have not been adequately replaced due to shortages of both organic and chemical fertilizer. The Terai region also has greater income inequality than the mountains, with a high prevalence of sharecroppers, landless agricultural workers and bonded laborers so the food access is actually no better despite food surpluses⁶⁴.

Nepal was chosen as the site of the project due to an existing interest by Heifer International (HI) in examining the impact of the introduction of livestock into households on childhood nutrition. HI is a globally active NGO with over 400 projects in 75 countries. HI uses the introduction of livestock and related training as tools for poverty alleviation, citizen empowerment, and community development. In Nepal, HI's activities focus on the distribution of livestock and training to rural women's groups with an emphasis on income generation. A pilot study requested by Heifer International Nepal (HI/N) in 2001 (conducted by LCM) found no differences in anthropometric measurements in children whose families had received animals through HI/N and those whose families had not. This finding, coupled with the recognition that nutritional support is a vital cornerstone of community development, led to a desire to expand existing projects to include a focus on child nutrition. The present project therefore proposes to augment existing HI/N programs while critically evaluating the effects of these additional interventions on child nutritional outcome.

Two lengthy visits were made to Nepal during the assessment phase of this project. During these visits, input was solicited from small landholders, tenant farmers, researchers, as well as local, national, regional, and international government and non-governmental organizations (NGOs) on the current status of ASF consumption by children, the factors affecting consumption, and the perceived importance of this issue. Visits to households, schools, and orphanages, as well as meetings with government and NGOs confirmed both a need to increase ASF production in children's diets and the interest of local and regional organizations in doing so. It became evident early in this process that primary interest and benefits lay in working at the community level, rather than in schools and orphanages as originally proposed.

The project site selected for this investigation is located in the rural municipality of Itahari in Sunsari district of the southeastern Terai (Annex 3). Itahari was chosen due to five factors: 1) demographically representative of a large population, both nationally and regionally, 2) excellent existing relationships between HI/N and community women's groups, local NGO, and the Itahari Dairy Co-op, 3) strong community interest in raising livestock and in improving child health, 4) close proximity to Tarahara Regional Agriculture Research Station (RARS, overseen by the Nepal Agricultural Research Council [NARC]), and 5) close proximity to B.P.Koirala Institute of Health Sciences (BPKIHS), one of the premier medical colleges in Nepal.

The project area is easily accessed by motorable mud road from the highway. The site is 30 minutes by road from Dharan, approximately 45 minutes from Biratnagar, and 500 km from Kathmandu. The weather is hot and humid. Basic infrastructure, including roads, electricity, drinking water supply, hospitals, schools, and telecommunications, is available in this area. The majority of inhabitants are ethnic Mushar and Dalit (extremely disadvantaged and impoverished); the communities are patriarchal. Most people are poor tenant farmers; a few own small plots of land. Most work as seasonal agricultural laborers. Few children attend school: parents are unaware of the importance of education or cannot afford school fees. A few women raise buffalo, cattle, or goats owned by the landlords. Most of the animals are low quality and produce only about 2-3 liters of milk per day. The Itahari Dairy Co-operative, formed in 1998, helps women market the milk; members may purchase animal feed, veterinary medicines, and the service of the Village Animal Health Worker (VAHW) at reduced cost. In this community, 20 women's groups have formed as a result of previous community development efforts led by the HI/N project holder, "Integrated Agriculture Reform and Environment Preservation Forum (FIAREP)". The households of five of these women's groups (~170 families, 400 children) will comprise the study population in this project. This population includes a heterogeneous sample of low-income households with a relatively wide range of capabilities (numeracy, literacy, and agriculture) and resources (land, animals).

Through multiple meetings and discussions with community leaders and project partners, three critical factors were identified for further investigation: 1) access to ASFs at the household level, 2) household income, 3) awareness of nutrition and health. The final consensus project intertwines research and development to introduce interventions aimed at overcoming these identified barriers to ASF consumption by children. Proposed interventions include: 1) optimization and diversification of animal production at the household level, 2) increased income generation through livestock enterprises at the household level and improved business practices through the dairy co-op, and 3) nutrition education in various settings.

PROJECT ACTIVITIES

Project Approach

The Nepal CRSP project will promote and integrate multidisciplinary work using a sustainable livelihoods approach to development that provides a people-centered, responsive and participatory framework for change. HI/N has pursued this approach in Itahari for a number of years, and now wishes to expand these activities and have an analysis of the efficacy of their efforts. The project will achieve this through building innovative partnerships across disciplines, line agencies, research institutions, NGOs, civil society and the private sector. The research objectives are incorporated throughout the project activities which are structured so that analyses of interventions can be done throughout the project period.

The project will be based on a livelihoods analysis. A key element of the livelihoods approach is flexibility and adaptation to the pluralistic and diversified nature of local conditions. The project livelihoods analysis will enable a shift in focus from resources to people and from constraints to strengths. The analysis looks at the vulnerability and assets of people and attempts to build on their strengths (human, social, physical, natural and financial capital) while understanding and making explicit the relationships between vulnerability and poverty. This leads to a higher probability of improving the quality of project entry points. In addition, this framework assists in structuring information from multiple disciplines. A project that strengthens human and social capital in synergy with physical, natural and financial capital is more likely to bring about sustainable outcomes.

Although activities in Nepal are defined by the parameters of the research, the actual project entry points in the community will be determined through the initial livelihoods analysis. This flexible, more open-ended approach to interventions assures that the diagnosis carried out is dynamic and iterative. There are also, as described in the project model, built-in participatory feedback mechanisms that will contribute to improving project design, implementation, and self-evaluation.

A livelihoods approach will provide essential information on how prevailing structures, institutional arrangements, policy and processes affect livelihoods, and in turn how this affects food choices for children..

LIVESTOCK/BUSINESS DEVELOPMENT ACTIVITIES

Best Management Practices A major thrust of the project is to improve animal production as a means of increasing household income and increasing household availability of ASFs. One goal of the project is to test the hypothesis that improved livestock productivity enhances ASF consumption. To address this, current animal husbandry, health, sanitation feeding and management practices related to dairy animals will be reviewed. Guidelines for best management practices (BMPs) –appropriate for local resources- will be developed to improve animal productivity and the wholesomeness of ASFs . Workshops will be conducted with households to disseminate information on these BMPs; technical assistance will be provided by HI/N, RARS, and the Department of Livestock Services (DLS) District Office which will provide district veterinary officers and livestock extension specialists to participate in surveys, workshops, and outreach efforts.

Zoonotic diseases Another factor important in optimization of animal production is improvement in animal health. Central to this is an initiative to reduce zoonotic diseases, which not only impairs livestock health (and productivity) but also may spread to the human population. Assuring the wholesomeness and safety of ASFs is a fundamental requirement for interventions which promote ingestion of these foods to

improve child health. Diseases and agents of concern related to consumption of dairy products in Nepal include salmonellosis, *E. coli O157*, brucellosis and to a lesser extent, tuberculosis. *Salmonella enteritidis* infection is increasingly associated with egg production and consumption. Consumption of pork is associated with neurologic cysticercosis (the major cause of epilepsy in Asia)⁸⁰. Surveys in Nepal have found that 15% of villagers used or sold milk from sick dairy animals⁸¹, 2-25% of buffaloes at slaughter had brucellosis^{82, 83}, 5% of milk samples had brucellosis organisms⁸³, and 17% of animals at slaughter had hydatid cysts (echinococcus)⁸³. *Salmonella enteritidis* is endemic among chickens⁸², and most milk and much meat sold is adulterated and/or unhygienic⁸⁴⁻⁸⁶. However, Nepal is distinguished by its high level of awareness of zoonoses, efforts to define the scope and extent of the problem, and initiatives to control such diseases⁸⁷⁻⁹⁰.

As a result of these concerns, the project will assess potential zoonoses associated with household dairy operations and the Dairy Co-op. On-site sampling and laboratory analysis will identify the prevalence of zoonotic disease agents among household dairy animals and at the dairy co-op (*Myc. bovis*, *Brucella*, *Salmonella* spps., *E. coli O157*, *Cryptosporidia*). Based on this survey data, BMPs for reduction of zoonotic disease agents on farms and at the Dairy Co-op will be developed and disseminated through workshops. Adoption of BMPs will be monitored through repeated survey and sampling. General information on reducing the risk of food-borne diseases will be disseminated through local NGOs (FIAREP and the Trust for Zoonoses and Consumer Awareness), women's groups, and the Dairy Co-op in cooperation with community health workers from the Epidemiology and Disease Control Division (EDCD) of the Nepal Department of Health Services (DHS).

Diversification of livestock Another animal husbandry project activity will be promotion of diversification of household livestock, with the goal of providing a greater variety of ASFs for consumption or income generation. Diversification can "even out" the availability of ASFs for consumption or sale across seasons or management cycles. For example, between buffalo lactation periods, ASFs (or income) may be derived from eggs, fish or meat. Also, diversification can broaden the spectrum of micronutrients available to children in the household, improving overall nutrition. This process will begin by identifying individual women who are interested and able to assume responsibility for demonstration models of fish ponds and small scale poultry raising (dual purpose meat and egg breeds). This will include discussion of work loads involved in the enterprise and the potential for income generation. Based on the success of demonstration models, the project will promote adoption of similar enterprises by other households in the study population. Technical assistance for development of demonstration models will be provided by specialists from RARS, HI/N, and the DLS.

Additional income generation Optimization and diversification of household livestock activities may result in increased income and ASF availability for families. In addition, other activities directed to this goal will be introduced. For example, simple processing of ASFs at the household level, such as solar drying of fish or meat, may also extend the temporal availability of these foods. These techniques may also add value to items to be sold outside the household or allow them to be sold at times when markets support higher prices. A household business consultant will conduct training sessions and provide business mentoring for interested participants. Food processing activities that require more technical input or investment (such as preparing yogurt or cheese) will be conducted at the Dairy Co-op, and if successful will result in increased income for members. A private sector business consulting firm, Lotus Opportunities, will assist co-op management to conduct community marketing analyses to identify possible areas of expansion for the Dairy Co-op (improved or value-added dairy products). A business plan will be completed, business training (financial management, planning, cost-benefit analysis) and mentorship will be provided to co-op managers. Changes in income to co-op members will be monitored by project management with consent of the co-op.

NUTRITION TRAINING/AWARENESS

Nutrition awareness raising and training in nutrition using existing Nepal-specific materials and methods will be integrated into the project. Initially, a "nutrition" participatory appraisal will be conducted under the supervision of the community development specialist to look at existing dietary practices, beliefs, knowledge and attitudes within the community. This appraisal will complement the Health and Nutrition Assessments carried out by Pediatric House Officers (Ped HO, graduate physicians pursuing specialized

training in pediatrics) from BPKIHS (see below). The community development specialist will also launch a modified form of Participatory Action Research (PAR)⁹¹ with interested women's groups. Nutrition awareness messages created by women's groups with the assistance of a local media contractor will be distributed at the dairy co-op to members and customers and in the community to raise nutrition awareness. The Ped HOs will provide technical back-up as needed. In addition, the Ped HO and Female Community Health Volunteers (FCHV) will conduct ongoing participatory nutritional training (UNICEF, "Road to Health", see below) during their regular home visits.

Training materials used in home visits or with women's groups will be identified, and augmented as necessary to include sufficient emphasis on micro-nutrients with coverage of both animal, and non-animal source foods. A nutrient calendar will be developed specific to the local crop/livestock agro-ecological systems. This calendar will emphasize nutrient needs and the seasonal availability of produce providing these needs. The effect of training on decisions to provide children with ASF will be evaluated by followup survey, as described⁹².

EVALUATION OF CHILD HEALTH AND NUTRITIONAL STATUS

The final link in this holistic program is to assess the effect of these interventions on the health and nutritional status of participating children. This activity will be ongoing throughout the 3 year project period. Health and nutrition will be assessed comprehensively, utilizing traditional techniques supplemented with some novel approaches which are expected to provide unique data from a largely malnourished population. The health and nutritional assessments will be conducted by Ped HO under the supervision of the Chairman of the Department of Pediatrics at BPKIHS and her assistant.

Selected Ped HO will be assigned to the project for 2-3 years as part of their required community medicine rotation. After a special orientation course (Annex 4), Ped HO will regularly visit project households, collect baseline and follow-up health, nutritional, morbidity and mortality data, and obtain anthropometric measurements (height, weight, head circumference, mid-arm circumference). At intervals, they will collect clinical samples for analysis (blood, stool, saliva, shed deciduous teeth, and hair, see below). Each student will pair with a local FCHV for assessment visits (improving her skills and knowledge). At each assessment visit, Ped HO will also meet with the women's group to provide basic training in health and hygiene. Recognizing the importance of empowerment and participation, Ped HO will introduce the concept of "Road to Health" - assisting mothers to measure their own children's growth and to visualize the adequacy of this growth using standardized graphic material (provided by UNICEF-Nepal). A session on HIV/AIDS awareness will be included in this high risk region.

The participation of these highly skilled Ped HO allows global assessments of health beyond the quantitative measures usually obtained in such studies. Furthermore, this experience will broaden the exposure of the Ped HO to community health, sensitize them to the plight of impoverished people, expand their awareness of the holistic nature of health problems (e.g., that provision of medication alone is inadequate; social problems must also be addressed), and allow them to learn directly about the multiple causes of malnutrition among the rural poor. The Ped HO will also gain experience in research methods (data collection and management, statistics, analysis), and share these experiences at annual Research Days at BPKIHS.

Ped HO will be able to diagnose and treat any routine pediatric health problems encountered; they will refer children with more complex health problems to appropriate providers in the local community or at BPKIHS.

Protection of human subjects All activities related to children in this project will be approved by the Nepal Health Research Council (an internationally recognized Investigational Review Board [IRB] for research involving human subjects) as well as the IRBs of Tufts University School of Medicine (TUSM) and BPKIHS. Full compliance with all international standards involving human subject research will be assured. Ped HO, FCHV, and project field staff will be oriented to ethical considerations for research involving human subjects.

Partner organization The partner medical institution for pediatric project activities, BPKIHS, is located in Dharan Bazaar 30 minutes by road from Itahari. It is the premier medical institution in the Eastern Terai, and perhaps the most prestigious medical facility in Nepal. A self-governing, self-reliant international health science university, it is listed in the WHO directory of medical schools "with a mandate to develop

socially responsible and competent health workers” and to “carry out research pertaining to the needs of Nepal using a community-oriented, multidisciplinary, integrated, and problem-solving approach”⁹³. It has a 650-bed modern teaching hospital, schools of medicine, nursing, dentistry, and allied health professions. The facilities are sited within the former Gurkha headquarters of the British cantonment in Dharan. Unlike medical faculties in many developing countries, BPKIHS faculty members are required to limit their activities to their academic assignments (no private, after-hours medical practices are permitted). This highly unusual arrangement maintains a strong focus and energy on academic and research activities for faculty and students. BPKIHS faculty have collaborated on research projects with investigators from India, Switzerland, Belgium, and elsewhere.

ASSESSMENT OF CHILDREN

Subjects All children age 18 months to 10 years at start of study who reside in households with a participating women’s group member will be eligible for participation (estimated n=400). This age group is selected to include children whose diets have advanced beyond breast milk alone. The upper age limit is selected to include children whose growth is not yet complete. Children with physical or neurologic handicaps that prevent ingestion of a normal diet for age will be excluded.

Global health assessment will be performed for all child participants at entry and at serial time points throughout the project period (See Annex 5). This global health assessment will include traditional and novel tools to evaluate child health. It will provide a comprehensive overview of child health during the project period and allow identification of changes related to dietary modifications (e.g., consumption of ASFs). Clinical assessment of participating children will be accomplished in 5 ways: dietary survey, anthropometric measurements, biomarker determination, zoonotic and other infectious disease assessment, and health status appraisal. Alterations in the child’s growth, health, and biomarkers will be related to changes in diet. Clinical status will also be related to other variables, including changes in family income, introduction of new animals to the household, and health status of the household animals (see Statistics below).

Dietary survey Dietary intake will be obtained at each assessment point from the child’s mother or direct caregiver. Information will be obtained at baseline and at each study point utilizing standardized and locally appropriate techniques (24 hour recall) previously developed and validated by the Nepal National Nutrition Programme (NNP) and UNICEF-Nepal⁹⁴. Data will be collected and analyzed by NNP staff. The quantity and type of ASF in the diet will be carefully monitored. Suggestions for improving ASF consumption will be developed by ongoing PAR conducted by women’s group members and project field staff and incorporated into health messages conveyed in future Ped HO visits, CHW visits, and at the dairy co-op. Thus, the dietary surveys will inform ongoing educational and outreach activities throughout the project period. Seasonal variables related to harvests and crop availability will also be tracked⁹⁵.

Anthropometric measurements All child participants will be measured at entry and at each study point using standardized techniques; inter-rater and intra-rater reliability will be ensured. Measurements will be obtained using appropriate calibrated field equipment; supine heights will be obtained for children ≤ 3 years and standing heights for those > 3 years. Measurements will be converted to Z scores using the computer program Epi Info (Centers for Disease Control and Prevention), allowing comparison of children of different ages and genders, and tracking of individual children over time. The prevalence of underweight, stunting, and wasting will be determined according to World Health Organization standards.

Biomarkers The effects of malnutrition on various biomarkers are well-documented. In this study, traditional and novel biomarkers will be assessed in participating children to determine the influence of dietary changes and improved intake of ASFs. Because ASFs are the main source of bioavailable iron, vitamins A and B12, and zinc, these will be measured (hemoglobin will be a proxy for iron status). Iodine deficiency is endemic in this region of Nepal (including in animals⁹⁶), thus TSH will be tested as part of the global health assessment. Standardized techniques at BPKIHS clinical laboratories will be used for these determinations.

Because of recent concerns about groundwater contamination with arsenic in the Terai⁹⁷, a hair sample will be collected from each child at study entry. If these show excessive arsenic, further study and interventions will be designed.

The inter-relation between malnutrition and stress will also be investigated. Previous studies have shown that children with acute marasmus or kwashiorkor have elevated free cortisol levels⁹⁸. Stunted children have higher cortisol levels, higher heart rates, fewer vocalizations, more inhibited and less attentive behavior than their well-grown peers in response to physical and psychological stressors⁹⁸. Cortisol levels correlate inversely with nutritional status. Prolonged cortisol exposure may mediate the heightened physiologic activation, reduced locomotor output, and poor cognitive performance common among poorly nourished children^{6, 98}. Thus, cortisol may mediate some of the behavioral and neurocognitive features of malnutrition. This study provides the unique opportunity to assess cortisol levels in a cross-sectional population of malnourished children during a time that some are expected to improve their nutritional status. Salivary cortisol samples will be obtained at intervals throughout the study and related to changes in nutritional status and other clinical markers. Longitudinal studies of cortisol in malnourished children have not been previously reported, nor have cortisol levels been assessed in relation to disease burden.

Finally, the feasibility of an additional novel technique will be explored. Previous studies demonstrate that shed deciduous teeth can be analyzed to determine mineral composition (calcium, iron, zinc). This mineral composition reflects longitudinal nutritional status, from the time of enamel formation (month 3 of fetal life until 1 month after birth)⁹⁹. Thus, analysis of mineral content of shed deciduous teeth provides an additional means of assessing prenatal adequacy of some micronutrients. All participating children will be invited to donate their shed deciduous teeth to the project. These teeth will be assessed for total calcium, zinc, and iron content⁹⁹⁻¹⁰¹; these results will be related to serum biomarkers and growth measurements.

Zoonotic diseases and other infections Burden of infectious disease may impair the ability of children to respond to improved nutrition³³. Likewise, improved nutritional status enhances immune function and ability to resist infection^{31-33, 35, 102}. Serial screening for selected infectious diseases in the target population will address this variable. A special concern of this project is zoonotic diseases, which may impair livestock productivity and reduce the wholesomeness of milk, eggs, or meat from infected animals. This project provides an unusual opportunity for the concurrent assessment of zoonoses in household children and animals; no such investigation has been previously reported. It is estimated that Nepali children suffer from at least 3-4 episodes of diarrhea annually⁷¹. Stool samples from children with diarrhea (at sample collection times, using WHO definition of diarrhea: 3 or more watery, loose, effortless motions with 24-hour period⁷¹) will be cultured for *Salmonella spp.*, *E. coli 0157*, and *Cryptosporidia*; these results will be matched to culture results from household animals and from environmental sampling. The health appraisal questionnaire will include questions about symptoms suggestive of other zoonoses, including of neurocystercosis, atypical mycobacteria, brucellosis, and Japanese encephalitis. Other funding sources will be sought for more detailed investigation if this pilot data suggests this is a fruitful area for further investigation.

Other infectious diseases to be evaluated include malaria, intestinal parasites, and non-specific intercurrent infections (see below). Malaria is endemic in the Terai; children will be screened at project entry and mid-point; appropriate treatment or referrals given as needed. Intestinal parasites are also endemic in Nepal¹⁰³; over 70% of children¹⁰⁴ have one or more parasites. Geohelminths (especially hookworm) are most common; these organisms are responsible for protein-losing enteropathy and intestinal blood loss resulting in iron deficiency anemia¹⁰³, and may directly impair neurocognitive function (independent of anemia)^{105, 106}. Isolated treatment of helminths does not improve growth¹⁰⁷, however treatment in endemic areas is a desirable facet of child health improvement. Stool samples will be screened for intestinal parasites throughout the project period. After each sample collection, children will be given age-appropriate doses of albendazole (broad-spectrum anti-parasite agent) and rubber sandals ("flip-flops"). Concurrent health education will emphasize that wearing sandals reduces re-infection with hookworm.

Health Status Appraisal Neither biomarkers nor growth completely reveal the impact of malnutrition on the health and welfare of the child. Thus, a health status appraisal tool will be designed and validated to capture these "hidden costs" of malnutrition and the reduction in these costs among children with improved nutrition. Ped HO will collect this information at each study point. Morbidity will be

assessed by recall interview (e.g., number of days with diarrhea, respiratory symptoms, severe intercurrent infections). Any mortality among study participants will be noted, and if possible, cause of death will be recorded³⁴. Energy and activity level of children will be recorded by parent report using validated methods. Thus, "quality of life" for child participants will be determined. Possible adverse effects of milk ingestion will also be tracked, including lactose or milk protein intolerance.

STATISTICAL ANALYSIS

The Biostatistics Research Center staff at TUSM will collaborate with staff at BPKIHS and HI/N to ensure integrity of data management and statistical analyses. The Nepali Data Manager, who will have overall responsibility for the security and accessibility of the study database, will orient all data management staff that will have access to the data. All directories and databases will be password-protected, all data forms will be kept in secure files, no individual subject identifiers will be included in the analytic database, and access to the data directories will follow the policy of least privilege where each user's access will be restricted to the minimum necessary. Data will be double entered and discrepancies resolved by review of the data collection forms. Graphs, histograms, and summary statistics will be used to describe baseline measurements of each analytic variable. Data will similarly be summarized at each of the serial measurements. Preliminary analyses will compare pre and post-intervention measurements for changes in the global health assessment, diet, anthropometric measurements, biomarkers, quality of life, and income. Although there is no control group, changes in anthropometric measurements will be compared to published local norms. Because of the expected clustering within household, hierarchical regression models will be used to obtain robust estimates of the variance.

Since the intervention is implemented at the household level, these hierarchical regression models will also be used to account for multiple children from the same household, as well as repeated measurements over time. The effect of the various intervention components will be examined using generalized estimating equations for binary outcomes, mixed linear models for continuous outcomes, and Poisson models for count data. Each of these regression analyses will be adjusted for the expected clustering of measurements on children within the same household. These models can also incorporate seasonal and secular trends as well as changes in the intervention implementation over time. Interaction terms in these models will be used to explore for any differential impact of the intervention components relating to individual or household characteristics (e.g. gender of child.)

Data are not available for power analyses on the expected correlations of these measurements over time or within households. However, a sample of 400 will have over 80% power to detect an effect size of 0.15 standard deviations in the change between pre- and post-intervention measurements. Given that the intervention is likely implemented at the household level, the effective sample size will be less than this. An intraclass correlation of 0.5, corresponding to 50% of the variability accounted for by variation between households, would reduce the effective sample size to 218. This sample size would still provide over 80% power to detect moderate changes of 0.20 standard deviations.

IMPLEMENTATION PLAN AND TIMETABLE

A timeline for project implementation is provided in Annex 6. The initial phase of the project will establish the project management team, provide project orientation to staff and participants, and finalize the work plan. Concurrently, a data management team will be identified. Field sites and household participants will be confirmed, and field staff selected. Field staff will be responsible for daily project activities including the various survey activities which are the principal source of data collection. Field staff will be assisted by local NGO for livelihood analysis; district veterinary officers, district livestock extension specialists, and VAHW for animal husbandry and zoonotic disease risk surveys; and local NGO, Ped HO, and FCHV for dietary/growth/health/nutrition surveys. All survey teams will be trained within the first four months of the project.

Survey instruments will be developed by the appropriate working groups specialists (e.g., physicians, veterinarians, nutritionists). The social scientist consultant will ensure that survey instruments are designed to provide gender disaggregated data where appropriate. In addition, for the dietary practices survey, the development of the survey instrument will be preceded by participatory appraisal exercises in selected women's groups to ensure that questions are designed to reflect local conditions, attitudes and practices. All survey teams will be trained in gender awareness, survey techniques, data collection, and the

specific content of their activities. In month 3-4, livelihoods analysis and dairy husbandry practices/zoonoses (including environmental and clinical sample collection) baseline data will be collected. Quality assurance procedures will be conducted to ensure reliability of veterinary laboratory results.

Dietary/growth/nutrition and child health assessments will begin after permission for research involving human subjects is secured. To ensure that reliable, repeatable laboratory assays are performed, the implementation plan includes time to standardize assays and implement quality assurance procedures. Livelihood analysis and dietary/growth/nutrition and health assessments will be repeated serially in the study population throughout the project period (see Timeline, Annex 6). These serial visits and reevaluation activities comprise the ongoing monitoring aspect of the project. The last assessment of children in targeted households is scheduled to occur in the next to last month of the final year of the project and it is expected that the data analysis can be finalized and necessary reports and publications can be prepared within the six months following the end of the third project year.

Regionalization will be addressed in two ways. The first is through partnership with HI/N. Heifer International, with headquarters in Little Rock Arkansas, is an international NGO with rural development programs in 13 countries in Asia, 12 countries in Africa, 8 countries in Latin America and 11 countries in Eastern and Central Europe. The core activity of HI is to provide livestock and associated training to families in poverty as a tool for income generation, personal growth and community development. HI is keenly interested in this study because it offers the opportunity to learn new interventions that can maximize the availability of ASFs for children to improve health and nutrition in a manner consistent with their core mission. Lessons learned in this project will be disseminated by HI throughout its network of hundreds of livestock related development projects in the countries of Asia and elsewhere. The second regionalization effort involves partnership with the International Centre for Integrated Mountain Development (ICIMoD). ICIMoD focuses on addressing the unique development challenges associated with peoples inhabiting mountainous regions, notably the Hindu Kush and Himalayas of Asia. The organization works in Nepal and surrounding nations including Afghanistan, Bangladesh, Bhutan, China, India, Myanmar and Pakistan. In cooperation with ICIMoD, the project team will develop a case study in Nepal to address cultural and gender issues in child health and nutrition. The case study will be expanded to include at least two other countries in the region and the results of the case study will be published by ICIMoD as a policy guide for improving access to ASFs by children in the mountainous region.

TEAM COMPOSITION

The Nepal CRSP project, assembled as a series of multidisciplinary partnerships, is composed of a team of varied experts who collaborate and coordinate activities using tiered interactive management. The project principal investigator at TUSM in Boston will coordinate medical research activities supervised by the Chairman of Pediatrics of BPKIHS in Dharan, Nepal. Day to day project field activities in the Itahari area are directed by an on-site group based at the Itahari Dairy Co-operative that includes a field manager, a trained veterinarian, a community development specialist, and a number of local NGO field staff.

Project financial management is operated from Kathmandu through the main HI/N office with financial clerks at BPKIHS and at the project site office reporting to Kathmandu. A consultant project coordinator acting as a liaison officer also operates out of HI/N in Kathmandu. The data management specialist is shared by both HI/N and the project. He/she travels frequently to the project site and is responsible for setting up the project database. Medical research data managed at BPKIHS will be linked to the main project database.

Baseline data collection and the livelihood analysis are to be completed on site by a local consultant social scientist who trains and builds the capacity of the project community development specialist and the local NGO staff. The consulting social scientist will confer with the medical team leader on what exercises the Ped HO will use from an existing nutrition participatory rapid appraisal¹⁰⁸, and provide training to the NGO field staff who will undertake this. He/she analyzes data and assists in building capacity for site-based data quality control and entry. This includes providing a series of "gender awareness" trainings prior to survey work and ensuring collection of gender dis-aggregated data by different teams.

Selected HI/N veterinarians travel to the site as consultants, initially joining with district veterinary officers and livestock extension specialists to undertake the necessary baseline livestock surveys. The iterative elements of the livelihood analysis and nutrition appraisal exercises combined with

information from the veterinary baseline survey will provide a basis for the selection of project entry points.

Scientists and staff from the nearby RARS at Tarahara will guide and monitor the introduction of demonstration fish ponds and small-scale poultry production enterprises in selected households. The development of BMPs to increase livestock production, milk production for the Itahari Dairy, and awareness of food-borne diseases is an ongoing activity that includes RARS scientists, HI/N veterinarians, government veterinarians, and project partners in the EDCD of the Nepal DHS. The Massachusetts Department of Agricultural Resources contributed to the project assessment and design and will provide expert veterinary consultation.

The consulting social scientist will guide PAR, working with the project community development specialist and NGO staff to initiate this research activity in selected women's groups affiliated with the Itahari Dairy Cooperative. The topic of the PAR will be "nutrition awareness". Through discussion, reflection and dialogue, women's groups will build social resources and come to a consensus on actions needed to improve nutrition awareness in the community. Members of the Gender Mainstreaming department of ICIMoD and the consulting social scientist and other project staff will also involve members of women's groups in looking at the barriers to increasing ASFs in their children's diets. A case-study series will be prepared on the topic.

The medical team leader, the project field manager, the social scientist, other participating scientists and selected staff from HI/N meet regularly as an Executive Committee to coordinate workplans and project activities. The Executive Committee also meets with a stakeholder advisory group that includes representatives of the Itahari Dairy Co-op, women's groups, local NGOs, and other community members to ensure a continued responsiveness to expressed needs of participants and to continue to strengthen their group human and social capital.

The results of PAR will be presented by women's groups. A local nutrition awareness campaign, referencing material produced through PAR, will be developed in consultation with the Ped HO, NNP, and FCHV (who are already delivering some nutrition awareness training in the community). There will be consultation and linkages to UNICEF-Nepal, a project supporter, for material in Nepali on health and nutrition. Likewise, the social scientist and the gender advisor from ICIMoD will consult the results of the PAR and with individual women's groups in the preparation of the first case study on the gender/cultural

In the first year, the project's private sector business partner (LOTUS) will conduct a market survey while reviewing operations at the Itahari Dairy Cooperative and advise co-op members on management, capacity building, and possible new directions such as value-added products. LOTUS, in conjunction with agricultural specialists from RARS and other suitable, identified consultants, will subsequently develop plans in conjunction with the Itahari Dairy Cooperative to process and market value-added ASF products through the Cooperative to enhance income generation for the Cooperative and its members.

This multi-disciplinary team of physicians, veterinarians, social scientists, animal production specialists, business advisors, and community organizers from government, academia, NGOs and the private sector represents an important innovative approach to addressing the multifactorial barriers which have traditionally restricted access to ASFs by children in poverty.

DEVELOPMENTAL RELEVANCE

The agricultural sector dominates Nepal's economy, producing 40 percent of GDP and employing more than 73 percent of the population⁶³, but poverty, food insecurity and malnutrition have not significantly diminished in the last decade because of Nepal's continued very low level of overall economic development.

Livestock is a fast growing agricultural sub-sector in Nepal and is considered important in poverty reduction¹⁰⁹. The Nepal CRSP project proposes to improve livestock production and expand livestock opportunities with families around Itahari to increase income and improve nutrition.

The CRSP Nepal project's target population includes the principal groups of Nepal's poor and food insecure; subsistence farmers, the lowest castes, girls and female-headed households. Research indicates that women bear a disproportionately higher burden of poverty¹¹⁰. Gender discrimination in access over markets, institutions and resources constrain women from overcoming poverty. Gender-based exclusion in Nepal is pervasive and deep, with discrimination against women reducing their physical survival, health and educational opportunities, ownership of assets, mobility, and overall cultural status.

The proposed CRSP project will initially focus livestock related activities with women's groups supported by HI/N through local NGOs and associated to the Itahari Dairy Co-operative in the Terai. Improving livestock production supports USAID's agriculture sector strategy theme 1 to develop the livestock sector to foster economic growth and an emphasis on women's groups supports USAID's Women in Development strategic objective to "enhance the economic status of women". Nutrition education efforts will contain an HIV awareness component which is also consistent with the goals of USAID.

The Nepal Ninth five year development plan (1997-2002) adopted the Agriculture Perspective Plan (APP) as a strategy to alleviate poverty and enhance food security but the plan is essentially growth-focused. Policies to improve food access included fertilizer subsidies, as well as grain procurement and distribution to food deficit areas but assessments show the benefits went to the better-off¹¹¹. The Poverty Reduction Strategy Paper (PRSP) of the Tenth Plan (2002 – 2007) aims at high, sustainable and broad-based economic growth, social sector and infrastructure development, targeted programmes and good governance. The PRSP affirms that the plan relies heavily on the private sector, NGOs, INGOs and Community Based Groups for carrying on economic activities, infrastructure development and service delivery wherever possible, both in partnership with central and local government and agencies to complement the role of the government¹¹². The Nepal CRSP will facilitate the development of economic activities and services to communities around Itahari through its multi-sectoral partnerships including local NGOs, National Research groups, INGOs, the district veterinary office and the private sector. Both the Ninth and the Tenth plan stress the need for decentralization. The CRSP proposed project will support the local district veterinary officers with training and other opportunities. This strategy will improve the overall quality of service delivery to men and women livestock owners around Itahari and increase their "human capital". This is particularly important for rural women in Nepal who feel left out of extension efforts and technology transfer¹¹³.

The results of the Nepal CRSP proposed research project will be significant for informing development policy in relation to poverty reduction and will assist Nepal in making progress towards meeting the United Nation's Millennium Development Goal (MDG 1) which is to eradicate extreme poverty and hunger by 2015.

Malnutrition particularly among Nepali children is widespread. Inequitable food access within the household and poor food utilization arise from inappropriate food practices and beliefs. It has been found there is a high prevalence of disease amongst the poor; disease is a major trigger that pushes households into poverty¹¹⁴. In Nepal, the situation is exacerbated when the problems in feeding patterns cited above combine with infection, diarrhea, and lack of access to clean water and sanitation. The Nepal CRSP project will concentrate on three food security fronts: availability, access, and utilization. Participatory Action Research carried out with women's groups will look more closely at some of the unknowns in the realm food utilization and nutrition awareness and look for actions that can overcome barriers to the utilization of ASFs in children's diets.

TRAINING PLAN

Training is incorporated into all aspects of this multi-disciplinary project. The training activities are depicted in Annex 7 and indicated in the log-frame. All project personnel will participate in training; most will both receive and provide training. Community and gender awareness training will be included in the orientation to project activities to all participants/newly hired staff, using the "Heifer Cornerstones" model. (HI/N staff and Itahari women's groups have already received this training).

Training will occur in various venues, ranging from formal didactic sessions to supervised practical experiences. All research activities are field-based, thus participants will "learn by doing" under appropriate supervision with immediate feedback. Presentations at specific symposia, conferences, and workshops will be expected for Pediatric and Veterinary participants.

Training for research goals: Participants in research activities will include women's group members, NGO field staff, Ped HO, BPKIHS pediatricians, FCHVs, VAHWs, district veterinarians, and veterinary extension agents. Women's group members and NGO field staff will learn PAR techniques from the Community Development Specialist and Social Science Consultant. They will use PAR to develop health and nutrition awareness messages to spread to other women's groups and the dairy co-op. The Ped HO will review basic clinical research methods (survey techniques, data collection, analysis) in their orientation to the program; they will apply these in "mini-projects" which they develop (under

supervision of BPKIHS pediatricians) to coincide with their field visits. They will present the results of these investigations at an annual Research Day at BPKIHS, the 2 project National Workshops, and other national medical meetings. Supervising Pediatric Staff from BPKIHS will also develop and refine research problems resulting from field investigations and will present results at national, regional, and international medical meetings. FCHV will learn basic clinical research skills by assisting the Ped HO in data collection. Field staff will learn basic survey techniques via their participation in pediatric and veterinary components. VAHWs, veterinary extension agents, and district veterinarians will learn/refresh basic clinical research skills (survey techniques and data collection) and knowledge (zoonotic diseases) under the supervision of the project veterinarian (HPI/N). Survey results will be presented at the two project National Workshops. All participants in research activities will gain fuller appreciation of the need for a multi-sectoral approach to alleviation of poverty and malnutrition.

Training for development goals: Participants in development activities will include women's group members, dairy co-op members and management, NGO field staff, and Sectoral Working Groups. Women's group members will learn basic numeracy and business skills from the business development trainer. They will be trained by veterinary extension specialists in BMPs and be eligible for technical assistance for diversified livestock enterprises. FCHV will upgrade their clinical skills by partnering with Ped HO. With the assistance of the FCHVs and Ped HO, women's group members and NGO field staff will also learn how to weigh and measure their children, record, and interpret the results (UNICEF-Road to Health). Ped HO will increase their knowledge of zoonotic diseases, the complex causes of malnutrition, and interpretation of test results. Laboratory personnel (Microbiology, Biochemistry) will add new assays to their repertoire (vitamin B12, vitamin A, cortisol, quantitative helminth detection), and participate in quality control exercises for these assays. NGO field staff and dairy co-op members and managers will receive business development training (Market Analysis and Development). Sectoral Working Group members will gain practical experience in multi-disciplinary collaboration to achieve development goals.

IMPACT ASSESSMENT AND EVALUATION

The microcredit programs of the Grameen Bank and others show that a large proportion of rural women seeking microcredit use their loans to purchase livestock, recognizing animals as a critical source of income generation in rural economies. In recognition of this fact, many NGOs working with the rural poor, especially women's groups, have adopted animal distribution as a development tool. It is envisioned that the results of this study will have a major impact on the effectiveness of such development activities. The multidisciplinary approach adopted in this project will demonstrate the value of linking animal agriculture to nutritional awareness at the household level and the value of strengthening animal production practices to ensure a greater availability of ASFs in the household and through enhanced income generation. It is envisioned that this model can be adopted by development NGOs and government extension agencies to ensure that livestock production activities are properly integrated into small scale agricultural systems to promote their sustainability and to encourage an informed selection of balanced animal husbandry activities that can provide reliable nutrients throughout the seasonal cycle of farm production. The impact will be felt at the household level as well as at the national policy planning level relative to poverty-focused development.

Evaluation of project performance is facilitated throughout the project design. There is regular feedback to the investigators through recurrent, periodic monitoring of project activities to provide both quantitative and qualitative data which will allow ongoing assessment of achievements or deficiencies and provide opportunities for modification of project activities to better achieve the desired objectives. Research findings will be submitted to peer-reviewed journals at appropriate intervals during the project to ensure widespread availability of project results.

GENDER

Gender issues are a key element of the project, integrated from the onset with the collection of gender-disaggregated data through the livelihood analysis and baseline surveys. The different surveys will identify division of labor within households, as well as access to and control of resources by gender. Project staff will use this information as new activities, particularly livestock related, are introduced to

selected households to ensure gender equity and sensitivity.

In the initial phase of the project, Ped HO from BPKIHS and project field staff will increase their sensitivity to gender issues through “gender awareness” training. HI/N administrative staff will also participate in “gender awareness” training. Administrative staff are often a crucial link between levels of staff and without their support, new approaches are easily undermined.

Through directed PAR, selected women’s groups will study intra-household allocation of ASFs. If there are underlying gender/age specific differences in individual allocations, these will be identified as well as the constraints to the inclusion of these foods in children’s diets. The action research will attempt to address constraints possibly through local media-based nutrition marketing campaigns.

Results of the PAR as well as cultural practices or beliefs that might limit the inclusion of ASFs in children’s diets will be presented through a regionally adapted case-study series managed by ICIMoD.

SUMMARY

This multidisciplinary and holistic project proposes to investigate the relative significance of several key barriers limiting ASF consumption by Nepali children, and the efficacy of selected interventions to overcome these barriers. Barriers to be investigated include: 1) limited household access to ASFs, 2) limited household income, 3) inadequate knowledge of nutrition, 4) gender constraints in household resource allocation. These will be addressed by interventions designed to: 1) optimize household livestock production, 2) increase income through livestock enterprises (household) and improved business practices (local dairy co-operative), and 3) increase nutrition, health, and gender awareness. In partnership with Heifer International Nepal, serial information will be collected and analyzed on demographics, income, nutrition awareness, dietary practices, related to changes in children’s health, growth, and nutritional biomarkers using hierarchical regression models to determine the effects of interventions.

OBJECTIVE MATRIX



ANIMAL SOURCE FOODS FOR NEPALI CHILDREN

<p>Goal Overcome barriers to consumption of ASFs by Nepali children through multidisciplinary research and intervention.</p>	<p>OVI/Staffing Increased consumption of ASFs by children</p>	<p>MOV Dietary practice surveys, improvement in biochemical and anthropometric markers reflecting improved nutritional status of children</p>	<p>Assumptions: That addressing issues of (1) income (through improved livestock production and marketing), (2) availability (through diversification of household livestock activities), (3) cultural/gender biases in food allocation, (4) nutritional awareness, and (5) dietary practices will overcome barriers to the consumption of ASFs by Nepali children</p>
<p>Purpose Increase the utilization of ASFs in the children's diets by:</p> <ul style="list-style-type: none"> - improving livestock production at the household level - increasing household income - nutrition/health education 	<p>OVI: 30% of households have measurable increases in production outputs from livestock. 20% of households have diversified and/or expanded their livestock enterprises. 30% of households increase their income. All women's groups members and dairy co-op members participate in nutrition/health education. 50% of participating children increase their dietary intake of ASFs.</p>	<p>Project Monitoring Reports</p> <p>Quarterly/Annual Project Reports</p> <p>Case Studies</p> <p>Dietary Surveys</p>	<p>That security permits project activities</p> <p>That improved livestock production increases household income and reduces food insecurity enough to change consumption</p> <p>That nutrition/health education can be assimilated and promote change in poverty afflicted areas</p> <p>That severe human or animal disease outbreaks do not occur</p> <p>That the effects of interventions can be distinguished from other factors effecting outcomes</p>
<p>Outputs/Results: <i>Business/Livestock Enterprise Development</i></p>			
<p>Output 1: In-depth understanding of the livelihood patterns of the target population.</p>	<p>Baseline survey/Livelihood analysis is completed and results are analyzed</p>	<p>Baseline survey data entered in project monitoring database</p> <p>Livelihood analysis report of selected households</p>	<p>Skilled professional social scientist available for project work</p>
<p>Output 2: Increased dairy production and reduced risk or occurrence of food borne/zoonotic diseases through implementation of BMPs.</p>	<p>Increased animal production and reduced animal morbidity and mortality documented in households following adoption of BMPs</p> <p>Reduction in isolates of zoonotic</p>	<p>BMPs published</p> <p>Workshops conducted</p> <p>Animal morbidity/mortality monitoring reports</p> <p>Increased production noted in project monitoring reports</p>	<p>That adoption of BMPs will result in increased animal production</p> <p>That adoption of BMPs reduces occurrence of food borne/zoonotic diseases</p>

(Log Frame-1)

	pathogens from animals, animal products and prepared foods following adoption of BMPs	Laboratory testing results reported in project monitoring database	
Output 3: Increase in the variety of ASFs produced at the household level.	Increase in the number of households in target population with multiple animal production enterprises	Annual reports Regular project monitoring reports	That increase in the variety of ASFs produced at the household level will result in increased levels of consumption
Output 4: Increased income in households and at the dairy co-op from diversification and marketing of ASFs and/or value-added ASF products.	Household incomes improve through diversified ASF production; co-op incomes improved through the production and sale of value-added ASF products	Project monitoring reports Annual reports Household cost/benefit analysis reports co-op ledgers/shareholder accounts	That households can afford to diversify income sources That co-op is successful in producing and marketing value-added products
Activities <u>Activity 1: Baseline survey/livelihood analysis.</u> 1. Social scientist prepares baseline survey/livelihood analysis questionnaire on site. 2. Social scientist trains local NGO staff staff to conduct survey and questionnaire. 3. Questionnaire/survey completed. 4. Data is analyzed. 5. Serial monitoring of changes in household income in subset of target population.	Social science consultant (4 mo yr 1, 1 mo yr 2 and 3) Project field staff (4 staff for 4 mo yr 1, 1 mo yr 2 and yr 3) Data Management Specialist (2 mo yr 1, 1 mo yr 2 and 3) Data entry clerk (2 mo yr 1, 2 mo yr 2, 2 mo yr 3)	Completed Questionnaires and data sheets received from survey team Baseline survey entered in project monitoring database Livelihood Analysis published	That qualified professional staff for preparation of survey materials and training of survey team will be available That a qualified data management specialist is available to set up the project monitoring database
<u>Activity 2: Increase dairy animal production and reduce food borne/zoonotic disease through development and adoption of BMPs.</u> 1. Review existing extension recommendations and NGO training programs in animal husbandry and public health recommendations for control of food borne/zoonotic disease. 2. Develop a survey instrument and sampling protocol to assess current animal husbandry practices and the risk of food borne/zoonotic disease that allows collection and assessment of gender disaggregated data. 3. Recruit and train personnel (short	Project Veterinarian (3 mos yr 1, 2 mo yr 2 and 3) Field Veterinarian (8 mos yr 1, 4 mo each yr 2 and 3) Dairy production consultant (3 mo yr 1, 2 mo yr 2 and 3) Zoonotic disease consultant (4 mo yr 1, 2 mo yr 2 and 3) Social Science/Gender Consultant (.5 mo yr 1) Community development specialist (.5 mo yr 1)	Survey data for dairy husbandry practices and food borne/zoonotic diseases entered in project monitoring database Survey of dairy husbandry practices and food borne/zoonotic diseases analyzed and published in project reports New BMPs for improving dairy production and minimizing food borne/zoonotic diseases published and disseminated Project workshops on BMPs for improving dairy production and eliminating food borne/zoonotic	That producing and disseminating BMPs for dairy husbandry will lead to household level adoption of BMPs and increased dairy production That food-borne/zoonotic disease significantly affects the health of the target population, lowers animal production, and reduces acceptance of ASFs in the diet That producing and disseminating BMPs for food-borne/zoonotic disease will lead to household level adoption of BMPs, improve health, increase animal production and increase consumption of ASFs

<p>term consultants) on survey and sampling techniques.</p> <p>4. Conduct baseline survey on existing animal husbandry practices and zoonotic disease risks, including collection of samples for laboratory analysis to determine extent of zoonotic disease agents.</p> <p>5. Assess survey and laboratory results.</p> <p>6. Based on survey and laboratory results, develop best management practices (BMPs) for improving dairy animal production and minimizing the risk of food borne/zoonotic disease under conditions of local buffalo and cattle production.</p> <p>7. Disseminate BMP concepts to buffalo and cattle owners, community based animal health workers, and veterinarians through workshops.</p> <p>8. Monitor adoption of BMPs at household level; document changes in production and reduction in zoonotic disease agents.</p>	<p>VAHWs (3 mo each yr)</p> <p>Project field staff (2 mo each yr)</p> <p>Laboratory support (contractual)</p> <p>Data entry clerk (1 mo each yr)</p>	<p>diseases conducted</p> <p>Project Monitoring reports</p> <p>Annual reports</p>	<p>That quality laboratory analysis can be conducted</p>
<p><u>Activity 3: Increase the variety of ASFs in households.</u></p> <p>1. Work with local research station staff, NGO partners and business consultants to assess potential for introduction of varied livestock enterprises, including fish ponds, broiler production, and egg production in households.</p> <p>2. Establish small livestock demonstration models at selected households.</p> <p>3. Assess capacity and interest of women's group members in response to demonstration models.</p> <p>4. Train interested women's group</p>	<p>Animal Production Specialists/Trainers (poultry, fish) (3 mo yr 1, 2 mo yr 2 and 3)</p> <p>Field Veterinarian (3 mo each yr)</p> <p>Small business consultant (1 mo each yr)</p> <p>Community development specialist (1 mo each yr)</p> <p>Project field staff (2 mo each yr)</p>	<p>Consultant's Reports</p> <p>Project Monitoring Reports</p> <p>Number of small business trainings conducted</p> <p>Number of animal production training sessions for dairy, poultry, fish)</p> <p>Number of small household enterprises established</p> <p>Annual project reports</p>	<p>That significant numbers of households in the target population have the capacity to diversify animal production</p> <p>That a market exists for increased household production of animal products</p> <p>That adequate training and resources are available for diversifying animal production at the household level in the project areas</p> <p>That business consultants are available to train household members in business management</p>

(Log Frame-3)

<p>members in expanding identified animal production enterprises.</p> <p>5. Provide ongoing technical support and monitoring of newly established household enterprises by research station staff, NGO partners and/or business consultants (cost-benefit analysis).</p>			
<p>Activity 4: Increase household and co-op income.</p> <ol style="list-style-type: none"> 1. Recruit Business Development Specialist/Organization and trainer. 2. Conduct market analysis for different value added food products with emphasis on women's enterprise development. 3. Train and build capacity of co-op, women's groups, and individual co-op members in market analysis and product development/technology. 4. Initiate production of value added ASF products. 5. Implement marketing strategy. 6. Monitor changes in income at household and co-op level. 	<p>Business development team (2 mo yr 1, 1 mo yr 2, 2 mo yr 3)</p> <p>Technical advisors (.5 mo yr 1, 3 mo yr 2, 1 mo yr 3)</p> <p>Project field staff (1 mo each yr)</p> <p>Community development specialist (1 mo each yr)</p>	<p>Market analysis conducted and results entered in project monitoring database</p> <p>Number and types of training given to women's group and co-op personnel</p> <p>Number and type of value-added foods identified for marketing</p> <p>Number of business plans produced</p> <p>Number of women's groups or individuals producing and marketing value added food products</p> <p>Number of value added food products marketed by the co-op</p> <p>Shareholder accounts</p> <p>Cost/benefit analyses</p> <p>Project Monitoring reports</p> <p>Annual Reports</p>	<p>That business development expertise available for the project area</p> <p>That it is feasible for women's groups or individuals to market value added food products</p> <p>That a market for value added food products exists</p> <p>That the co-op has the capacity to adopt value-added food production in addition to collection and sale of milk</p> <p>That increased co-op, women's group or individual household income results from the production of value-added food products</p>

Outputs and Results: *Health and Nutrition*

<p>Output 1: In-depth understanding of dietary practices of study population.</p>	<p>Survey completed, data entered and analyzed</p>	<p>Survey results entered in project Monitoring Database Regular project monitoring reports Project reports Annual report</p>	<p>Target population cooperates with survey personnel</p>
<p>Output 2 Health and nutritional status</p>	<p>Completed serial analysis of growth</p>	<p>Survey data is recorded in project</p>	<p>Ped HO are able to regularly collect all needed</p>

<p>of target children improved.</p>	<p>parameters, morbidity [including intestinal parasites, malaria, food borne/zoonotic and other infectious diseases, arsenic exposure], mortality, and laboratory measures of nutritional status (Hgb, Vit B12, Vit A, zinc, TSH, cortisol)</p>	<p>Monitoring Database</p> <p>Project monitoring reports</p> <p>Growth data reports</p> <p>Health status data reports</p> <p>Laboratory results</p> <p>Statistical analysis of data</p> <p>Project reports</p> <p>Annual reports</p>	<p>samples</p> <p>Quality laboratory analysis can be conducted</p> <p>Technicians are available for data analysis</p>
<p>Output 3: Capacity of Ped HOs, BPKIHS laboratory staff, and FCHVs enhanced.</p>	<p>Ped HOs participate in orientation course, research activities, and present results at local and national forums</p> <p>Laboratory staff learns new techniques for quantitative geohelminth detection, vitamin A, B12 and cortisol assays, participates in quality assurance exercises</p> <p>FCHV attend refresher courses</p>	<p>Attendance Records</p> <p>Number of trainings</p> <p>Lab tests performed under and results made available</p> <p>Adherence to quality control procedures</p>	<p>Participants are able to attend and assimilate training sessions</p>
<p>Output 4: Health and nutritional messages developed and promulgated at women's group, dairy co-op, and community level.</p>	<p>Women's groups develop educational messages through Participatory Action Research (PAR)</p> <p>Health/nutrition displays available at dairy co-op for members and customers</p> <p>Health/nutrition messages disseminated in community</p>	<p>Results of PAR are published</p> <p>Results of PAR are developed into appropriate nutrition education material</p> <p>Nutrition education material is published in the form of posters, felt board dialogues, etc.</p> <p>Samples of posters, booklets, and other educational material supplied in annual reports</p>	<p>That Participatory Action Research with women's groups produces nutrition education messages useful for promoting the project's goals</p> <p>That messages from PAR can be transformed into media formats</p>

<p>Output 5: Health and nutrition awareness training is conducted with women's groups and at the dairy co-op, utilizing material prepared through PAR.</p>	<p>Women's groups and dairy co-op members participate in health and nutrition awareness training</p>	<p>Number of training sessions held for health and nutrition with women's groups, at the dairy co-op and in the community</p> <p>Regular project monitoring reports assessing the impact of trainings on target population</p> <p>Project reports</p> <p>Annual reports</p>	<p>That Ped HOs, NGO staff, and FCHVs are able to collaborate to deliver training in different settings to the target population</p> <p>That the training increases the consumption of ASFs in children's diets in the target population</p>
<p>Output 6: ICIMOD and HPI/N complete a case study with the target population on gender/cultural barriers to the consumption of ASFs in children's diets in Nepal. (This will be the first in a regional case study series on the same topic produced by ICIMOD).</p>	<p>Gender-related and cultural barriers to ASF consumption are identified</p>	<p>Case study produced</p>	<p>That target households agree to participate, provide information truthfully</p> <p>ICIMOD will conduct other case studies in the region (tentatively, Bhutan and Afghanistan)</p>
<p>Activities <u>Activity 1: Conduct comprehensive survey of dietary practices.</u> 1. Appropriate dietary survey tool developed. 2. Nutritional knowledge and feeding practices survey produced. 3. Dietary changes in relation to income change, nutrition education, and production of ASFs in households collected and analyzed (concurrent with Activity 2.2).</p>	<p>BPKIHS Ped HOs (3 mo each yr)</p> <p>BPKIHS Pediatricians (1 mo yr 1)</p> <p>BPKIHS Nutritionist (4 mo each yr)</p> <p>BPKIHS statistician (2 mo each yr)</p> <p>Data entry clerk (3 mo each yr)</p> <p>NNP personnel (3 mo each yr)</p> <p>FCHVs (3 mo each yr)</p> <p>Community development specialist (1 mo each yr)</p>	<p>Results of survey recorded in project monitoring database</p> <p>Results of survey published in project reports</p> <p>Project monitoring reports</p> <p>Annual reports</p>	<p>Ped HOs are able to conduct survey</p> <p>Survey can be analyzed and data entered in project database</p>
<p><u>Activity 2: Track health and nutritional status of children.</u> 1. Human investigation approval obtained in US and Nepal. 2. Ped HO conduct periodic household visits to identify changes in dietary practices and quantifiable changes in</p>	<p>Project field staff (3 mo each yr)</p> <p>BPKIHS Pediatricians (3 mo each yr)</p> <p>Medical survey team (Ped HOs and FCHV) (3 mo each year)</p> <p>Data entry clerk (3 mo each yr)</p>	<p>Project monitoring reports</p> <p>Project reports</p> <p>Annual reports</p> <p>Number of training sessions held with lab staff and Ped HO</p>	<p>That Ped HOs have the confidence of the target population and are able to regularly assess children.</p> <p>That laboratory is able to provide accurate test results</p> <p>That it is possible to measure the impact of</p>

<p>anthropometric and biochemical parameters of children in target households (concurrent with Activity 1.3).</p> <p>3. Changes in diet, health, growth, laboratory markers assessed in relation to ASF availability, income, and participation in nutrition/health education activities.</p> <p>4. Feasibility of analysis of deciduous teeth for Zn, Fe, Ca content explored</p>	<p>BPKIHS Microbiology/biochemical lab staff (1 mo each yr)</p> <p>BPKIHS Nutritionist, NNP personnel (2 mo each yr)</p> <p>BPKIHS statistician (1 mo each yr)</p> <p>Community development specialist</p>		<p>health and nutrition education training on increased consumption of ASFs by children in target population</p>
<p><u>Activity 3: Training and capacity building: for Ped HO in community medicine and research, for biochemical and microbiological laboratory staff in analytical techniques, and for FCHVs in health/nutrition education. Team development for all participants.</u></p> <p>1. Orientation to research and community medicine course developed to include: techniques of clinical research, anthropometry, sample collection, data entry, sensitization to clinical and social problems in villages, health education, human subjects protection, inter- and intra-rater reliability.</p> <p>2. Ped HOs provide FCHVs with refresher course in health and nutrition.</p> <p>3. Ped HOs provide training and capacity building in health/nutrition awareness for local women's groups using some of the material developed through PAR.</p>	<p>BPKIHS Pediatricians (3 mo each yr)</p> <p>Ped HOs and FCHV (3 mo each yr)</p> <p>Social Scientist consultant (.5 mo yr 1)</p>	<p>Ped HO attend course</p> <p>Number of nutrition trainings given by medical students and FCHVs</p> <p>Project Monitoring Reports</p> <p>Nutritionist's report</p> <p>Annual report</p> <p>Local women's groups attend training on health/nutrition</p>	<p>That course can be developed, that Ped HO assimilate material</p> <p>That Ped HO and FCHV are able to function as a team</p> <p>That women's groups are receptive to PAR techniques</p>

<p>Activity 4: PAR conducted to develop nutrition and health education messages.</p> <ol style="list-style-type: none"> 1. Social scientist/Comm Devel Specialist initiate community-based participatory action research to determine cultural/gender feeding practices in project area. 2. Results of PAR are utilized to design target messages. 3. Suitable material developed and disseminated through various media (posters, flip charts, photographs, videos, radio scripts). 	<p>Social Scientist consultant (3 mos)</p> <p>Community Development Specialist</p> <p>NGO staff (4 mos)</p> <p>Local artist/media consultant (3 mos)</p>	<p>Consultant report/analysis of PAR</p> <p>Project Monitoring reports</p> <p>Project Reports</p> <p>Annual report</p> <p>Poster and other media material with nutrition education messages</p>	<p>That PAR produces nutritional education messages that support the goal of the project.</p>
<p>Activity 5: Gender case study</p> <ol style="list-style-type: none"> 1. Gender case studies of regional interest in collaboration with ICIMOD. 	<p>HPI/N staff (3 mo yr 2 and yr 3)</p> <p>ICIMOD Gender Advisor (3 mo yr 2 and yr 3)</p> <p>Women's groups</p> <p>Social Scientist consultant (1 mo yr 2 and yr 3)</p>	<p>Case study</p> <p>Consultant's report</p> <p>Project Annual report</p>	<p>That Social Scientist is able to supervise information collection</p> <p>That ICIMOD and Social Science consultant work with HPI/N staff on joint preparation of case study</p> <p>That a case study series for the region can be identified</p>
<p>Outputs and Results: <i>Project Coordination and Management</i></p>			
<p>Output 1: Project management established.</p>	<p>MOUs are signed and competent project staff hired</p>	<p>Signed MOUs</p> <p>Personnel Contracts</p> <p>Financial records</p> <p>Monitoring data</p> <p>Project reports</p> <p>Annual report</p>	<p>That organizations are able and willing to formalize MOUs and contracts</p> <p>That qualified staff is available in the project area</p> <p>That security situation remains stable</p> <p>That exchange rate remains stable</p>
<p>Output 2: Partnerships developed between appropriate government agencies, non-governmental organizations, and private businesses.</p>	<p>MOUs are signed and seconded staff are trained</p> <p>Completed first year work plans</p>	<p>Signed MOUs</p> <p>Contracts</p> <p>Financial Records</p> <p>Workplans</p> <p>Project Reports</p> <p>Annual Report</p>	<p>The project coordinator is able to coordinate all the different partners and tasks</p>

<p><u>Activity 1: Establish project management.</u></p> <p>1. Project management team established.</p> <p>1.1 Gender and community awareness orientation for all project staff.</p> <p>2. Advisory committees formed.</p> <p>2.1 Executive Committee comprised of financial, veterinary, social science, administrative, data manager, business advisor, pediatrician, and project manager formed to meet quarterly and as determined by committee members.</p> <p>2.2 Review of annual workplans by Executive Committee.</p> <p>2.3 Stakeholder Advisory Committee formed to meet biannually to review project design, progress, issues, etc. Committee to be formed from national and local government officials, women's groups and community members, co-op staff, and NGO representatives.</p> <p>2.4 Sector workgroups for Veterinary, Health/ Nutrition and Business Development formed to meet biannually.</p>	<p>Principal Investigator – Tufts Project Coordinator—HI (KTM) Medical Coordinator—BPKIHS (Terai) Project Site Manager---(Terai) Finance Officer—HI (KTM) Finance Clerk ---Project (Terai) Project Vet—HI (KTM) Social Scientist Consultant—(Terai) (4) local NGO staff -- (Terai) Vet Consultants—(Terai) Medical Finance officer –BPKIHS (Terai) Business Advisor---(Terai) Project Data Manager—HI (KTM) Project Data Clerk--- (Terai)</p> <p>Newly hired staff</p> <p>Project Coordinator Project Site Manager Finance Officer Project Vet Social Scientist Business Advisor Data Manager Community Development Specialist As above</p> <p>Local government officials National government officials Members of women's groups People from project community Staff of dairy co-op Project field staff</p> <p>Veterinary: VAHW rep, District Vet, NARC staff, co-op staff, zoonoses staff, project vets staff, project vet consultants, NGO staff, community development specialist</p>	<p>Personnel contracts Project financial records Workplans Project reports Annual report</p> <p>Report</p> <p>(4) Quarterly Meeting Records Project reports</p> <p>Annual report</p> <p>Project Monitoring Reports Project Reports Annual Report</p> <p>Minutes of bi-annual meetings Project reports Annual reports Written recommendations to Project Coordinator and Project Management Team</p>	<p>That qualified staff available and willing to participate</p> <p>That HI staff able to conduct orientation</p> <p>That quarterly meetings of key personnel are an efficient method of project coordination</p> <p>That key project staff are aware of how to make a workplan and that a workplan is required</p> <p>That a stakeholder advisory committee will be empowered to effect change/re-design of project</p> <p>That adequate time and resources are available for committee meetings</p>
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<p><u>Activity 2: Formalize relationships with government agencies, NGOs, and private businesses.</u></p> <p>1. Complete MOUs including details of financial arrangements.</p>	<p>NARC NNP BPKIHS DLS DHS Social Scientist Consultant Vet Consultant Business Dev. Consultant Dairy co-op Women's Groups ICIMOD UNICEF</p>	<p>Signed MOUs Signed Contracts Staff seconded</p>	
<p>Outputs and Results: <i>Dissemination of Information</i></p>			
<p>Output 1: Dissemination of information obtained through project activities at district, national, regional and international level.</p>	<p>Case studies, posters, educational materials, BMPs, guidelines, etc. produced</p>	<p>Case studies BMPs Education methods and materials Poster Presentations Study Results</p>	<p>That BMPs , guidelines and educational materials will be transferable to other locations and situations</p> <p>That research activities provides results and conclusions of significance</p>
<p><u>Activity 1: Dissemination</u></p> <p>1. Conduct national workshops.</p>	<p>Project Management Staff (2 mo yr 2 and 3)</p>	<p>Workshop for relevant national and regions organizations at project mid-point and conclusion</p>	<p>That government agencies and NGOs willing and able to attend workshops</p>
<p>2. Publish in relevant local, regional, national and international publications related to agriculture, health/nutrition, and development.</p>	<p>BPKIHS Staff (2 mo yr 2 and yr 3)</p> <p>Project staff and consultants (as needed)</p>	<p>Publishable studies and case studies</p>	

3. Present at relevant academic and scientific meetings and symposia, eg. SAARC Medical Society, Nepal Pediatric Society, International Pediatric Association, American Academy of Pediatrics, Nepal-American Medical Association, etc.	BPKIHS Staff (1 mo yr 2 and yr 3) Project staff and consultants (as needed)	Powerpoint presentations, written study/project synopses, posters presentations.	
4. BPKIHS participants conduct Annual Research Day at BPKIHS to present results.	BPKIHS Staff (1 mo yr 2 and yr 3) Ped HOs (1 mo yr 2 and yr 3)	Research report	
5. Distribution of germane veterinary BMPs and guidelines, nutrition educational materials, and case studies via electronic and printed form.	NARC Staff Co-op staff DLS DHS	BMPs Guidelines Educational materials	That sufficient interest and funding exist to distribute beyond project scope
6. Participation in GL-CRSP – sponsored symposia.	U.S. Principal investigator and Co-investigator BPKIHS Pediatricians	Powerpoint presentations, written study synopses.	That allotted funds adequate to cover expenses
7. Annual Reports circulated to participants and stakeholders.	Project Staff	Annual Reports	
8. Disseminate project model through Heifer International network.	HPI/N Country Director	Presentation at annual meeting of Country directors	
9. Electronic communication and discussion.	Project Staff	Webpage with all relevant materials related to project. Listserv for project participants and stakeholders	

**TEAM COMPOSITION FORM &
OFFICIAL INSTITUTIONAL
AUTHORIZATION FORMS**

Global Livestock CRSP
Project Team Members 2004 - 2007
Project: Animal Source Foods for Nepali Children

Name of Team Member (List alphabetically)		Nationality	M/F	Affiliation	Discipline	Degree	Position	Participation ¹		
Last	First									
1	Bhatta	Nisha	Nepal	F	BPKIHS		Pediatrics	M.D.	Asst Prof Pediatrics	5
2	Bishwakarma	Ramu	Nepal	M	HI/N		Finance/Accounting	M.S. busines	Finance Officer	2
3	Capello	Michael	USA	M	Yale University School of Medicine		Microbiology	M.D.	Dir Intern Child Health	2
4	Chapagain	Suhrid	Nepal	M	Lotus Opportunities		Business	MBA	Asst Mgr Network Initiatives	1
5	Dahal	Bhupa Devi	Nepal	F	Jagriti Women's Groups		Community Development	n/a	President	2
6	dhar Baral	Dharani	Nepal	M	BPKIHS		Biostatistics	Ph.D.	Sr Biostatistician	4
7	Gleason	Gary	USA	M	International Nutrition Fdn		Intern Devel and Nutrition	Ph.D.	Proj Dir Iron Def Proj Adv	2
8	Gongol	Gyanendra	Nepal	M	Dir.of Animal Health, Dept Livestock Services		Veterinary Medicine	DVM, MSc	Chief Veterinary Epidemiologist	3
9	Griffiths	John	USA	M	Tufts University		Biostatistics	Ph.D.	Assoc Prof Medicine	2
10	Kafle	Khem Nath	Nepal	M	Itahari Dairy Cooperative		Management	Gr. 8	President	1
11	Kane	Marilee	USA	F	Consultant		Anthropology	M.A.	Women In Devel Advisor	3
12	Krishna	G.C.	Nepal	M	National Nutrition Programme		Nutrition	MS-Nutrit	Food Research Officer	3
13	Lamsal	Madhab	Nepal	M	BPKIHS		Biochemistry	Ph.D.	Assoc.Prof. Biochem	2
14	Lohani	Mahendra	Nepal	M	Heifer International Headquarters		Vet. Med/NGO mgmt	BVSc, PhD	Asia/S.Pacific Director	3
15	Miller	Laurie	USA	F	Tufts University		Pediatrics	M.D.	Assoc Prof Pediatrics	5
16	Mitchell	Brad	USA	M	MA Dept of Agriculture Resources		Public Health and Epidemiolog	M.P.H.	Dir Reg Consumer Serv	5
17	Nuepane	Punya Prasad	Nepal	M	Integ Agric Reform Env Pres Forum		Community Development	Intermed.	President	1
18	Pakhrin	Bidur	Nepal	M	HPI/N		Veterinary Medicine	BVSc, AH	Interim Country Director	5
19	Poudel	Indra Maya	Nepal	F	Srijansil Women's Groups		Community Development	n/a	Treasurer	2
20	Poudel	Shanta	Nepal	F	Aadarsha Women's Groups		Community Development	na/	President	2
21	Pradhan	Adarsha	Nepal	M	National Animal Sci Research Inst		Veterinary Med/ Microbiol	M.V.Sc. Microbiol	Director	3
22	Pradhan	Rajeev	Nepal	M	Lotus Opportunities		Business	B.Eng.	Executive Director	2
23	Rai	Ash Kumar	Nepal	M	Nepal Agricultural Research Council		Aquaculture	Ph.D.	Chief, Fisheries Research	2
24	Regmi	Shanta	Nepal	F	Pragati Women's Groups		Community Development	n/a	President	2
25	Sharma	K.P.	Nepal	M	R.B.Bank		Microcredit, business developm	M.S.Soc/ Anthro/ Econ	Dept Chief Branch Admin	2
26	Sherman	David	USA	M	MA Dept of Agriculture Resources		Veterinary Medicine	DVM,MS	Chief Bureau Animal Health	3
27	Shrestha	Babita	Nepal	F	HI/N		Project Manager	M.S. Business	Project Manager	5
28	Shrestha	Hari Ram	Nepal	M	Nepal Agricultural Research Council		Livestock Production	M.S., animal prod	Director, Livestock/Fishery Research	3
29	Shrestha	J.M.	Nepal	M	Dept Healh Serv, Epid Dis Control		Epidemiology	Ph.D.	Chief, Zoonoses	3
30	Singh	Rupa	Nepal	F	BPKIHS		Pediatrics	M.D.	Prof & Chairmn Pediatrics, Hosp Director	5
31	Thakuri	Kishan Chand	Nepal	M	Trust for Zoonoses & Consumer Awaren		Veterinary Medicine	BVSc, MSc	Sr Vet Officer	2
32	Wasti	Purna Chandra	Nepal	M	National Nutrition Programme		Nutrition	MS Nutrit	Asst Food Officer	3
33	Wasti	Ambika	Nepal	F	Sagarmatha Women's Groups		Community Development	n/a	President	2

n/a=not applicable (no formal education)

¹Participation classifications

- 1: provided some expertise to project that strengthened already established components.
- 2: made contacts with other team members, contributed to a small degree to the project; no involvement or minor involvement in project planning and organization.
- 3: active participant who has responded to numerous requests for assistance from lead PI; contributes somewhat to project planning and organization; has some responsibility for a particular scientific area.
- 4: major participant who is involved in the strategic planning; has major scientific responsibility for an area of the project.
- 5: a leader in a major portion of the project; involved in the day-to-day planning for operations and management of a moajor component of the project; is a scientific leader for a major portion of the project.

Consultants and Investigators

Michael Capello, M.D.

Gary Gleason, Ph.D.

Marilee Kane, M.A.

Laurie Miller, M.D.

Brad Mitchell, M.P.H.

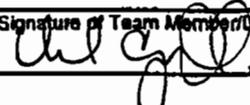
David Sherman, D.V.M., M.S.

Combined in-kind commitment: \$75,800

Cash commitment: \$27,000

Global Livestock Collaborative Research Support Program

Please provide signature of each participating team member and official institutional authorization (duplicate page as necessary).

Team Member (include title, address, phone, fax, email) Michael Cappello MD Associate Professor of Pediatrics Yale School of Medicine PO Box 208081 New Haven CT 06520 michael.cappello@yale.edu phone: 203-737-4320	Organization/Administrative Official (address, phone, fax, email) N/A (Consultant)
Cash Commitment	In-kind Commitment \$5,000
Signature of Team Member/Date  3/23/04	Signature of Administrative Official/Date

Team Member (include title, address, phone, fax, email)	Organization/Administrative Official (address, phone, fax, email)
Cash Commitment	In-kind Commitment
Signature of Team Member/Date	Signature of Administrative Official/Date

Team Member (include title, address, phone, fax, email)	Organization/Administrative Official (address, phone, fax, email)
Cash Commitment	In-kind Commitment
Signature of Team Member/Date	Signature of Administrative Official/Date

Team Member (include title, address, phone, fax, email)	Organization/Administrative Official (address, phone, fax, email)
Cash Commitment	In-kind Commitment

Form GL-CRSP 3

Global Livestock Collaborative Research Support Program

Please provide signature of each participating team member and official institutional authorization (duplicate page as necessary).

Team Member (include title, address, phone, fax, email) Gary R. Gleason, Ph. D Project Director IDPAS Iron Deficiency Project Advisory Service Phone: 1-617-636-3770 Fax: 1-617-636-3781 ggleason@inffoundation.org	Organization/Administrative Official (address, phone, fax, email) <p style="text-align: center; font-size: 1.5em;">N/A</p>
Cash Commitment	In-kind Commitment
Signature of Team Member/Date	Signature of Administrative Official/Date

Team Member (include title, address, phone, fax, email)	Organization/Administrative Official (address, phone, fax, email)
Cash Commitment	In-kind Commitment
Signature of Team Member/Date	Signature of Administrative Official/Date

Team Member (include title, address, phone, fax, email)	Organization/Administrative Official (address, phone, fax, email)
Cash Commitment	In-kind Commitment
Signature of Team Member/Date	Signature of Administrative Official/Date

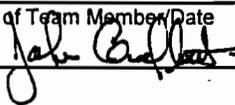
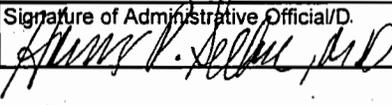
Team Member (include title, address, phone, fax, email)	Organization/Administrative Official (address, phone, fax, email)
Cash Commitment	In-kind Commitment

Global Livestock Collaborative Research Support Program

Please provide signature of each participating team member and official institutional authorization (duplicate page as necessary).

John L. Griffith, PhD, Director Biostatistics Research Center Institute for Clinical Research and Health Policy Studies Tufts- New England Medical Center 750 Washington Street Tufts-NEMC # 063 Boston, MA 02111	Tel. 617-636-4619 Fax. 617-636-5560 Jgriffith@tufts-NEMC.org	Harry P. Selker, MD, MSPH, Chief, Institute for Clinical Research and Health Policy Studies Tufts-New England Medical Center 750 Washington Street, Tufts-NEMC #063 Boston, MA 02111	Tel. 617-636-5009 Fax. 617-636-8023 Hselker@Tufts-NEMC.org
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\$0.00	In-kind Commitment \$2,400.00
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Signature of Team Member/Date  3/22/2004	Signature of Administrative Official/D.  3/22/2004
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Team Member (include title, address, phone, fax, email)	Organization/Administrative Official (address, phone, fax, email)
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Cash Commitment	In-kind Commitment
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Signature of Team Member/Date	Signature of Administrative Official/Date
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Team Member (include title, address, phone, fax, email)	Organization/Administrative Official (address, phone, fax, email)
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Cash Commitment	In-kind Commitment
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Signature of Team Member/Date	Signature of Administrative Official/Date
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Team Member (include title, address, phone, fax, email)	Organization/Administrative Official (address, phone, fax, email)
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Cash Commitment	In-kind Commitment
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Signature of Team Member/Date	Signature of Administrative Official/Date
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Global Livestock Collaborative Research Support Program

Please provide signature of each participating team member and official institutional authorization (duplicate page as necessary).

Team Member (include title, address, phone, fax, email) Marilee Kane Social Science Consultant Via San Anselmo 8 39/065781087 marileeK@hotmail.com	Organization/Administrative Official (address, phone, fax, email) <p style="text-align: center; font-size: 1.2em;"><u>Not Applicable</u></p> <p style="text-align: center; font-size: 1.2em;">Marilee Kane</p>
Cash Commitment	In-kind Commitment
Signature of Team Member/Date Marilee Kane 08.03.04	Signature of Administrative Official/Date

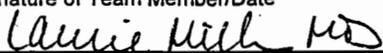
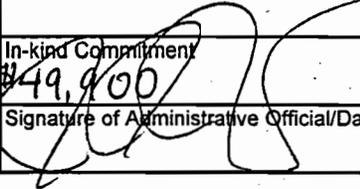
Team Member (include title, address, phone, fax, email)	Organization/Administrative Official (address, phone, fax, email)
Cash Commitment	In-kind Commitment
Signature of Team Member/Date	Signature of Administrative Official/Date

Team Member (include title, address, phone, fax, email)	Organization/Administrative Official (address, phone, fax, email)
Cash Commitment	In-kind Commitment
Signature of Team Member/Date	Signature of Administrative Official/Date

Team Member (include title, address, phone, fax, email)	Organization/Administrative Official (address, phone, fax, email)
Cash Commitment	In-kind Commitment

Global Livestock Collaborative Research Support Program

Please provide signature of each participating team member and official institutional authorization (duplicate page as necessary).

Team Member (include title, address, phone, fax, email) Laurie C. Miller, M.D. Associate Professor of Pediatrics Box 286 New Engl Med Ctr 750 Washington St. Boston, MA 02111 USA lmiller1@tufts-nemc.org 617-636-7285 617-636-8388 fax	Organization/Administrative Official (address, phone, fax, email) Ivan Frantz, III, M.D. Chairman, Dept of Pediatrics Box 44 New England Medical Ctr 750 Washington St. Boston, MA 02111 USA ifrantz@tufts-nemc.org 617-636-5322 617-636-8388 fax
Cash Commitment \$27,000 (see Tufts letter)	In-kind Commitment \$49,900
Signature of Team Member/Date 	Signature of Administrative Official/Date  3/18/07

Team Member (include title, address, phone, fax, email)	Organization/Administrative Official (address, phone, fax, email)
Cash Commitment	In-kind Commitment
Signature of Team Member/Date	Signature of Administrative Official/Date

Team Member (include title, address, phone, fax, email)	Organization/Administrative Official (address, phone, fax, email)
Cash Commitment	In-kind Commitment
Signature of Team Member/Date	Signature of Administrative Official/Date

Team Member (include title, address, phone, fax, email)	Organization/Administrative Official (address, phone, fax, email)
Cash Commitment	In-kind Commitment

Laurie Miller, M.D.

In-Kind Commitment:

	Estimated value over 3 years
Suitable office space and utilities	\$ 30,000
Access to computer and printer	3,000
Appropriate computer software	
Access to fax	
Access to photocopy	
Access to phone service and internet	1,900
Basic offices supplies and stationery	3,000
Malpractice insurance	12,000

Estimated total value: \$49,900

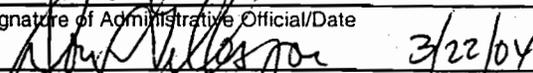
Tufts University salary support (cash) \$27,000

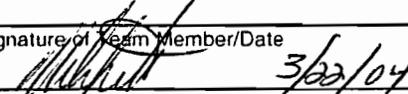
TOTAL \$76,900

(Additional Tufts Univ in-kind support offered
in relation to Dr. Griffiths) \$2,400

Global Livestock Collaborative Research Support Program

Please provide signature of each participating team member and official institutional authorization (duplicate page as necessary).

Team Member (include title, address, phone, fax, email) Dr. David Sherman Director, Animal Health and Dairy 251 Causeway St. Boston, MA 02114 617.626.1790 Fax 617.626.1850 David.Sherman@state.ma.us	Organization/Administrative Official (address, phone, fax, email) Commissioner Doug Gillespie MA Dept. of Agricultural Resources 251 Causeway St. Boston, MA 02114 617.626.1701 Fax 617.626.1850 Doug.Gillespie@state.ma.us
Cash Commitment	In-kind Commitment \$2500/year X 3 years
Signature of Team Member/Date  3/22/04	Signature of Administrative Official/Date  3/22/04

Team Member (include title, address, phone, fax, email) Mr. Brad Mitchell Director, Regulatory and Consumer Services 251 Causeway St. Boston, MA 02114 617.626.1771 Fax 617.626.1850 Brad.Mitchell@state.ma.us	Organization/Administrative Official (address, phone, fax, email) Commissioner Doug Gillespie MA Dept. of Agricultural Resources 251 Causeway St. Boston, MA 02114 617.626.1701 Fax 617.626.1850 Doug.Gillespie@state.ma.us
Cash Commitment	In-kind Commitment \$2500/year X 3 years
Signature of Team Member/Date  3/22/04	Signature of Administrative Official/Date  3/22/04

Team Member (include title, address, phone, fax, email) 	Organization/Administrative Official (address, phone, fax, email)
Cash Commitment	In-kind Commitment
Signature of Team Member/Date	Signature of Administrative Official/Date

Team Member (include title, address, phone, fax, email) 	Organization/Administrative Official (address, phone, fax, email)
Cash Commitment	In-kind Commitment
Signature of Team Member/Date	Signature of Administrative Official/Date

**B.P. Koirala Institute of Health
Sciences**

Rupa Singh, M.D.

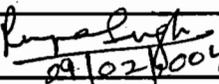
Nisha Bhatta, M.D.

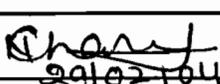
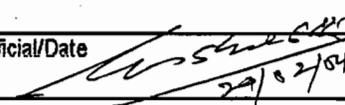
Madhab Lamsal, Ph.D.

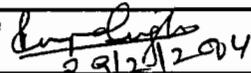
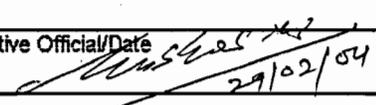
Dharani dhar Baral, Ph.D.

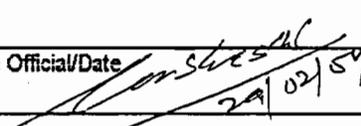
Combined in-kind support: \$22,650

Please provide signature of each participating team member and official institutional authorization (duplicate page as necessary).

Team Member (include title, address, phone, fax, email) Prof. Dr. Rupa Singh Acq. Hosp. Director Dept. of Paediatrics B.P. Koirala Inst. of Health S. Dharan, Nepal Ph: 025-521016 rupa@bhel.com.np	Organization/Administrative Official (address, phone, fax, email) Registrar, Dr. Gopal Prasad Shrestha B.P. Koirala Inst. of Health Sciences Dharan, Nepal Ph: 00-977-25-521017-4005 -520991 Fax: 00-977-25-520251
Cash Commitment	In-kind Commitment
Signature of Team Member/Date  29/02/2004	Signature of Administrative Official/Date  29/02/04

Team Member (include title, address, phone, fax, email) Dr. Nishakeshary Bhatta Assistant Professor Dept. of Pediatrics B.P. Koirala Institute of Health Science Dharan, Nepal Ph: NO 025-525555 Ex 2331 or Fax 977-25-520251 email: nishakesharybhatta@yahoo.com	Organization/Administrative Official (address, phone, fax, email) Registrar, Dr. Gopal Prasad Shrestha
Cash Commitment	In-kind Commitment
Signature of Team Member/Date  29/02/04	Signature of Administrative Official/Date  29/02/04

Team Member (include title, address, phone, fax, email) Dr. Madhab Lama Assoc. Professor, Biochemistry BPKIHS, Dharan, Nepal Fax 025-520251 Ph. 025-521017-2463	Organization/Administrative Official (address, phone, fax, email) Registrar, Dr. Gopal Prasad Shrestha
Cash Commitment	In-kind Commitment
Signature of Team Member/Date  29/02/2004	Signature of Administrative Official/Date  29/02/04

Team Member (include title, address, phone, fax, email) Mr. Dharani Dhar Bera Senior Instructor, BPK Inst. of Health S. Dharan, Nepal Ph: 00-977-25-521017-2325	Organization/Administrative Official (address, phone, fax, email)
Cash Commitment	In-kind Commitment
Signature of Team Member/Date Dharani Dhar Bera	Signature of Administrative Official/Date  29/02/04

In-Kind Support from BPKIHS

		Rupees	US \$
office space	3000/mo x2	216000	3000
office furniture	50000 x 2	100000	1375
computer access	75000	75000	1000
email access	2000/m x2	144000	2000
transport		131250	1800
basic office supplies		25000	300
telephone		5000	60
fax		75000	1000
photocopier		350000	4800
staff		1000	14
time			
Ped HO		300000	4100
sec support		180000	2500
lab subsidies		49500	600
accommodations		12000	100
Total		1663750	\$22649

IN ORGANIZATION'S LETTER'S HEAD

TO WHOM IT MAY CONCERN

Mr./Ms./Dr. _____, of _____, has read the project proposal "Animal Source Foods for Nepali Children", led by Dr. Laurie Miller, Principal Investigator, and agrees to commit _____ amount of time and/or the resources listed below (and indicated in the proposal) should the proposal be approved by the Global Livestock-CRSP.

Rupa Singh
Name Dr. Rupa Singh

2004/03/02
Date

B P Koirala Institute of Health Sc.
Organization Dharan, Nepal

Resources available for the project (check off all that apply):

Office space RS 3,000 - per month x 2
Office furniture RS 50,000 - x 2
Computer access RS 75,000 -
Email access RS 2,000 per month x 2
Transportation RS 1,31,250
Basic office supplies RS 25,000
Telephone RS 5,000 -
Fax RS 75,000 -
Photocopier RS 3,50,000 -
Staff time RS 1,000 - (hours per month)

- PG/HO 3,00,000 -
Sec. Support 1,80,000 -
Lab Inv 49,500 -
Accommodation 12,000 -

16,98,750 -

16,98,750

**Epidemiology and Disease Control
Division**

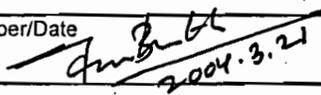
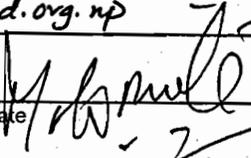
Department of Health Services

Dr. J.M. Shrestha

In-kind support: \$2500

Global Livestock Collaborative Research Support Program

Please provide signature of each participating team member and official institutional authorization (duplicate page as necessary).

Team Member (include title, address, phone, fax, email) <i>Dr. Jectendra Man Shrestha</i> <i>Chief, zoonoses subsection</i> <i>Epidemiology and Disease control Division</i> <i>Dept. of Health services, Teku, Kathmandu</i> <i>Tel: 00-977-1-4255796</i> <i>E-mail: jmsrestha@hotmail.com</i>	Organization/Administrative Official (address, phone, fax, email) <i>Dr. Mahendra Bahadur Bista.</i> <i>Director</i> <i>Epidemiology & Disease control Division</i> <i>Dept. of Health services, Teku, Kathmandu</i> <i>Tel/Fax: 00-977-1-4262268</i> <i>E-mail: jectendra@edcd.org.np</i>
Cash Commitment : 0	In-kind Commitment US\$ 2500.00
Signature of Team Member/Date  2004.3.21	Signature of Administrative Official/Date  21st March, 04

Team Member (include title, address, phone, fax, email)	Organization/Administrative Official (address, phone, fax, email) 
Cash Commitment	In-kind Commitment
Signature of Team Member/Date	Signature of Administrative Official/Date

Team Member (include title, address, phone, fax, email)	Organization/Administrative Official (address, phone, fax, email)
Cash Commitment	In-kind Commitment
Signature of Team Member/Date	Signature of Administrative Official/Date

Team Member (include title, address, phone, fax, email)	Organization/Administrative Official (address, phone, fax, email)
Cash Commitment	In-kind Commitment

**Heifer International and
Heifer International-Nepal**

Ramu Bishwakarma

Dr. Mahendra Lohani

Dr. Bidur Pakrin

Babita Shrestha

In-kind and cash commitment: \$110,000

Global Livestock Collaborative Research Support Program

Please provide signature of each participating team member and official institutional authorization (duplicate page as necessary).

Team Member (include title, address, phone, fax, email) Dr. Mahendra N. Lohani A/SP Program Director, HPI 1015 Louisiana St. Little Rock AR 72202. Phone: 501-907-4938 Fax: 501-907-2608 Email: mahendra.lohani@heifer.org	Organization/Administrative Official (address, phone, fax, email) Dr. James DeVries Senior Vice President Heifer Project International 1015 Louisiana St. Little Rock AR. 72202. Phone: 501-907-2600 Fax: 501-907-2608 Email: jim.devries@heifer.org
Cash Commitment Total of US\$ 110.00	In-kind Commitment 0.00 in cash or kind
Signature of Team Member/Date  18 Mar '04	Signature of Administrative Official/Date  3/18/04

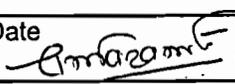
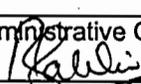
Team Member (include title, address, phone, fax, email)	Organization/Administrative Official (address, phone, fax, email)
Cash Commitment	In-kind Commitment
Signature of Team Member/Date	Signature of Administrative Official/Date

Team Member (include title, address, phone, fax, email)	Organization/Administrative Official (address, phone, fax, email)
Cash Commitment	In-kind Commitment
Signature of Team Member/Date	Signature of Administrative Official/Date

Team Member (include title, address, phone, fax, email)	Organization/Administrative Official (address, phone, fax, email)
Cash Commitment	In-kind Commitment
Signature of Team Member/Date	Signature of Administrative Official/Date

Please provide signature of each participating team member and official institutional authorization (duplicate page as necessary).

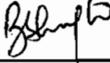
Team Member (include title, address, phone, fax, email) DR BIDUR PAKHRIN INTERIM COUNTRY DIRECTOR HPI/NEPAL Saatdobato, Lalitpur NEPAL 977-1-5332554 Fax 5542373 Bidur@HPINEPAL.ORG.NP	Organization/Administrative Official (address, phone, fax, email) DR MAHENDRA LOHANI ASIA SOUTH PACIFIC PROGRAM DIRECTOR HEIFER INTERNATIONAL 1015 Louisiana St Little Rock, AR USA 501-376-6836 fax 501-376-7631
Cash Commitment	In-kind Commitment Mahendra.Lohani@heifer.org
Signature of Team Member/Date  5 March '04	Signature of Administrative Official/Date 

Team Member (include title, address, phone, fax, email) RAMU BISHWAKARMA FINANCE OFFICER - HPI NEPAL SAATDOBATO, LALITPUR TEL: 977-1-5532554, 5542873 (FAX) RAMU@HPINEPAL.ORG.NP	Organization/Administrative Official (address, phone, fax, email) DR BIDUR PAKHRIN INTERIM COUNTRY DIRECTOR HPI/NEPAL Saatdobato Lalitpur Nepal 977-1-5332554 Fax 5542373 BIDUR@HPINEPAL.ORG.NP
Cash Commitment	In-kind Commitment-
Signature of Team Member/Date  05 MARCH 04	Signature of Administrative Official/Date  5 March '04

Team Member (include title, address, phone, fax, email)	Organization/Administrative Official (address, phone, fax, email)
Cash Commitment	In-kind Commitment
Signature of Team Member/Date	Signature of Administrative Official/Date

Team Member (include title, address, phone, fax, email)	Organization/Administrative Official (address, phone, fax, email)
Cash Commitment	In-kind Commitment-
Signature of Team Member/Date	Signature of Administrative Official/Date

Please provide signature of each participating team member and official institutional authorization (duplicate page as necessary).

Team Member (include title, address, phone, fax, email) Babita Shrestha Program Officer HPI/Nepal Satdobato, Lalitpur NEPAL 977-1-5332554, 5542373 Fax Babita@HPINEPAL.ORG.NP	Organization/Administrative Official (address, phone, fax, email) DR BIDUR PAKHRIN INTERIM COUNTRY DIRECTOR HPI/NEPAL Satdobato Lalitpur NEPAL 977-1-5332554 5542373 BIDUR@HPINEPAL.ORG.NP
Cash Commitment	In-kind Commitment
Signature of Team Member/Date  5 March '04	Signature of Administrative Official/Date  5 March '04

Team Member (include title, address, phone, fax, email)	Organization/Administrative Official (address, phone, fax, email)
Cash Commitment	In-kind Commitment-
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Team Member (include title, address, phone, fax, email)	Organization/Administrative Official (address, phone, fax, email)
Cash Commitment	In-kind Commitment-
Signature of Team Member/Date	Signature of Administrative Official/Date

**Itahari Dairy Co-operative
Integrated Agriculture Reform and
Environment
Itahari Women's Groups**

Khem Nath Kafle

Punya Prasad Nuepane

Indra Maya Poudel

Shanta Regmi

Bhupa Devi Dahal

Shanti Poudel

Ambika Wasti

Combined in-kind commitment: \$750

GLOBAL LIVESTOCK COLLABORATIVE RESEARCH SUPPORT PROGRAM

Please provide signature of each participating team member and official institutional authorization (duplicate page as necessary).

Team Member (include title, address, phone, fax, email) Mr. Khem Nath Kafle President Itahari Dairy Milk Producers Cooperative Itahari, Sunsari, East Nepal Ph: 00977-25-580052 Fax:00977-25-580680	Organization/Administrative Official (address, Phone, fax, email) <p style="text-align: center; font-weight: bold;">NOT APPLICABLE</p>
Cash Commitment	In-kind Commitment \$150.00
Signature of Team Member/Date <i>Khem Nath Kafle</i> 4/13/04	Signature of Administrative Official/Date

Team Member (include title, address, phone, fax, email) Mr. Punya Prasad Nuepane President Integrated Agriculture Reform and Environment Preservation Forum (FIAREP) Itahari, Sunsari, East Nepal Ph: 00977-25-580052 Fax:00977-25-580680	Organization/Administrative Official (address, Phone, fax, email) <p style="text-align: center; font-weight: bold;">NOT APPLICABLE</p>
Cash Commitment	In-kind Commitment \$100.00
Signature of Team Member/Date <i>Punya Prasad</i> 4/13/04	Signature of Administrative Official/Date

Team Member (include title, address, phone, fax, email) Mrs. Indra Maya Poudel Treasurer Srijansil Women's Gorups Dulari-1, Morang	Organization/Administrative Official (address, Phone, fax, email) <p style="text-align: center; font-weight: bold;">NOT APPLICABLE</p>
Cash Commitment	In-kind Commitment \$100.00
Signature of Team Member/Date <i>Indra Maya Poudel</i> 4/13/04	Signature of Administrative Official/Date

Team Member (include title, address, phone, fax, email) Mrs. Shanta Regmi President Pragati Women's Gorups Dulari-1, Morang	Organization/Administrative Official (address, Phone, fax, email) NOT APPLICABLE
Cash Commitment	In-kind Commitment \$100.00
Signature of Team Member/Date Shanta Regmi २१/०८/२०१७ ४१३१०४	Signature of Administrative Official/Date

Team Member (include title, address, phone, fax, email) Mrs. Bhupa Devi Dahal President Jagriti Women's Gorups Dulari-1, Morang	Organization/Administrative Official (address, Phone, fax, email) NOT APPLICABLE
Cash Commitment	In-kind Commitment \$100.00
Signature of Team Member/Date भुपा देवी दाहाल ४१३१०४	Signature of Administrative Official/Date

Team Member (include title, address, phone, fax, email) Mrs. Shanta Poudel President Aadarsha Women's Gorups Dulari-1, Morang	Organization/Administrative Official (address, Phone, fax, email) NOT APPLICABLE
Cash Commitment	In-kind Commitment \$100.00
Signature of Team Member/Date Shanta Poudel ४१३१०४	Signature of Administrative Official/Date

Team Member (include title, address, phone, fax, email) Mrs. Ambika Wasti President Sagarmatha Women's Gorups Dulari-1, Morang	Organization/Administrative Official (address, Phone, fax, email) NOT APPLICABLE
Cash Commitment	In-kind Commitment \$100.00
Signature of Team Member/Date अम्बिका वास्ती ४१३१०४	Signature of Administrative Official/Date

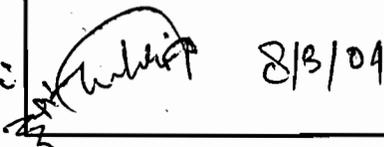
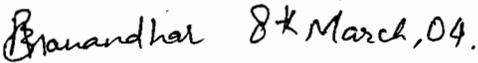
Lotus Opportunities

Rajiv Pradhan, B.Eng.

Suhrid Prasad Chapagain, M.B.A.

Combined in-kind support: \$2052

Global Livestock Collaborative Research Support Program

Please provide signature of each participating team member and official institutional authorization (duplicate page as necessary).	
<p>Team Member (include title, address, phone, fax, email) Mr. Rajiv Pradhan Executive Director Lotus Opportunities G.P.O . Box no : 3459, Ekantakuna , Lalitpur Tel : 00977- 1- 5530313 Fax: 00977- 1- 5532013 rajiv.pradhan@lotusopportunities.com.np</p>	<p>Organization/Administrative Official (address, phone, fax, email) Ms. Bindira Manandhar General Manager Lotus Bizport G.P.O . Box no : 3459, Ekantakuna , Lalitpur Tel : 00977- 1- 5530313 Fax: 00977- 1- 5532013 bindira.manandhar@lotusbizport.com.np</p>
Cash Commitment	In-kind Commitment US\$190 per year
Signature of Team Member/Date  8/3/04	Signature of Administrative Official/Date  8th March, 04
<p>Team Member (include title, address, phone, fax, email) Mr. Suhrd Prasad Chapagain Assistant Manager- Network Initiatives Lotus Opportunities G.P.O . Box no : 3459, Ekantakuna , Lalitpur Tel : 00977- 1- 5530313 Fax: 00977- 1- 5532013 Suhrd.chapagain@lotusopportunities.com.np</p>	<p>Organization/Administrative Official (address, phone, fax, email) Ms. Bindira Manandhar General Manager Lotus Bizport G.P.O . Box no : 3459, Ekantakuna , Lalitpur Tel : 00977- 1- 5530313 Fax: 00977- 1- 5532013 bindira.manandhar@lotusbizport.com.np</p>
Cash Commitment	In-kind Commitment US\$ 494 per year
Signature of Team Member/Date  8/3/04	Signature of Administrative Official/Date  8th March, 04.

**National Nutrition Programme
(Department of Food Technology and
Quality Control,
Ministry of Agriculture and
Cooperatives)**

Purna Chandra Wasti, M.S.

G.C. Krishna, M.S.

**Combined in-kind support: \$1000
(authorized by Director General, Dr.
T.B. Karki)**

Global Livestock Collaborative Research Support Program

Please provide signature of each participating team member and official institutional authorization (duplicate page as necessary).	
Team Member (include title, address, phone, fax, email) Name : Mr. Krishna G.C. Position : Ast. Food Research Officer Organization : DFTQC (National Nutrition Programme) Address : Babar Mahal, Kathmandu, Nepal Phone : 977-1-4251132(O) , 4476606 (R) Fax : 977-1-4262337 Email : kghartichhetri@hotmail.com ; dftqc@mail.com.np	Organization/Administrative Official (address, phone, fax, email) Name : Dr. Tika B. Karki Position : Director General Organization : Department of Food Technology and Quality Control (DFTQC) Address : Babar Mahal , Kathmandu, Nepal Phone : 977-1-4262369 Fax : 977-1-4262337 Email : dftqc@mail.com.np
Cash Commitment	In-kind Commitment : US \$ 500.00
Signature of Team Member/Date <i>K. W. Singh</i> 2nd March 2004	Signature of Administrative Official/Date <i>T. B. Karki</i> 2nd March 2004

Team Member (include title, address, phone, fax, email) Name : Mr. Purna Chandra Wasti Position : Ast. Food Research Officer Organization : DFTQC(National Nutrition Programme) Address : Babar Mahal, Kathmandu , Nepal Phone : 977-1-4251132 Fax : 977-1-4262337 Email : pcwasti@enet.com.np ; dftqc@mail.com.np	Organization/Administrative Official (address, phone, fax, email) Name : Dr. Tika B. Karki Position : Director General Organization : Department of Food Technology and Quality Control (DFTQC) Address : Babar Mahal , Kathmandu, Nepal Phone : 977-1-4262369 Fax : 977-1-4262337 Email : dftqc@mail.com.np
Cash Commitment	In-kind Commitment- US \$ 500.00
Signature of Team Member/Date <i>P. C. Wasti</i> 2nd March 2004	Signature of Administrative Official/Date <i>T. B. Karki</i> 2nd March 2004

Nepal Agricultural Research Council

Hari Ram Shrestha, M.S.

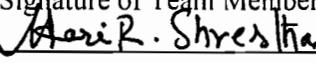
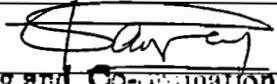
Ash Kumar Rai, Ph.D.

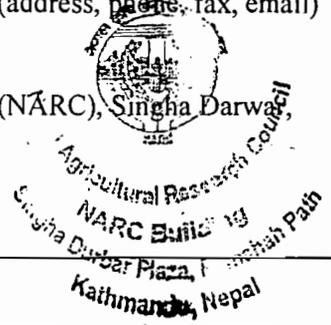
Adarsha Pradhan, M.V.Sc.

**Combined in-kind support: \$5000-
7000**

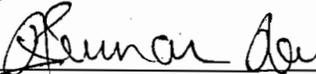
Global Livestock Collaborative Research Support Program

Please provide signature of each participating team member and official institutional authorization (duplicate page as necessary).

Team member (include title, phone, fax, email) Mr Hari Ram Shrestha Director, Livestock and Fisheries Nepal Agricultural Research Council (NARC) Singha Darwar, Plaza, Kathmandu, Nepal Phone: 977-1-4262570 Fax: 977-1-4262500 Email: shresthahr@mail.com	Organization/Administrative Official (address, phone, fax, email) Dr Surya Prasad Pandey Director, Planning and Coordination Nepal Agricultural Research Council (NARC), Singha Darwar Plaza, Kathmandu, Nepal Phone: 977-1-4262567 Fax: 977-1-977-1-4262500 Email: pcdnarc@ntc.net.np
Cash Commitment	In-kind Commitment: US\$ 5000-7000
Signature of Team Member/Date  03 March 2004	Signature of Administrative Official/Date  03-03-04 Director Planning and Co-ordination



Team member (include title, phone, fax, email) Dr Adarsha Pradhan Director, National Animal Science Research Institute, NARC, Khumaltar, Lalitpur, Nepal Phone: 977-1-5524040 Fax: 977-1-4262500 Email: nasri@wling.com.np	Organization/Administrative Official (address, phone, fax, email)
Cash Commitment	In-kind Commitment
Signature of Team Member/Date  03-03-04	Signature of Administrative Official/Date

Team member (include title, phone, fax, email) Dr Ash Kumar Rai Chief, Fisheries Research Division, NARC Godawari, Lalitpur, Nepal Phone: 977-1-5560155/5560563 Fax: 977-1-5560156 Email: frdgd@wlink.com.np	Organization/Administrative Official (address, phone, fax, email)
Cash Commitment	In-kind Commitment
Signature of Team Member/Date  03-03-04	Signature of Administrative Official/Date

Team member (include title, phone, fax, email)	Organization/Administrative Official (address, phone, fax, email)
Cash Commitment	In-kind Commitment
Signature of Team Member/Date	Signature of Administrative Official/Date

Trust for Zoonoses and Consumer Awareness

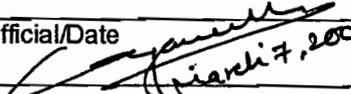
**K.C. Thakuri, BVSc&AH, MscTrop Vet
Sci**

Dr. G.N. Gongal (see "Institutional Letters of Support")

In kind support: \$2706

Global Livestock Collaborative Research Support Program

Please provide signature of each participating team member and official institutional authorization (duplicate page as necessary).

Team Member (include title, address, phone, fax, email) K. C. Thakuri, BVSc&AH, MScTrop. Vet. Sc. Veterinary Expert GPO Box No. 5409 Kathmandu, Nepal Tel. No. 00977-1-4372578 Fax No. 00977-1-4372578 E-mail: nfmnd@healthnet.org.np	Organization/Administrative Official (address, phone, fax, email) Trust for Zoonoses and Consumer Awareness GPO Box No. 5952 Kathmandu, Nepal Tel. No. 00977-1-4435835 Fax No. 00977-1-4435835 (On request) E-mail: Truzca_nepal@hotmail.com Dr. G. N. Gorgel
Cash Commitment	In-kind Commitment
Signature of Team Member/Date  7. March 2004	Signature of Administrative Official/Date  March 7, 2004



Team Member (include title, address, phone, fax, email)	Organization/Administrative Official (address, phone, fax, email)
Cash Commitment	In-kind Commitment-
Signature of Team Member/Date	Signature of Administrative Official/Date

Team Member (include title, address, phone, fax, email)	Organization/Administrative Official (address, phone, fax, email)
Cash Commitment	In-kind Commitment
Signature of Team Member/Date	Signature of Administrative Official/Date

BIBLIOGRAPHY

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**INSTITUTIONAL EXPRESSIONS
OF INTEREST/FINANCIAL
COMMITMENTS**

Institutional Expressions of Interest/Financial Commitments

- 1. B.P. Koirala Institute of Health Sciences**
- 2. B.P. Koirala Institute of Health Sciences-
Department of Pediatrics**
- 3. Feinstein International Famine Center**
- 4. Heifer International- Headquarters**
- 5. Heifer International- Nepal**
- 6. HMG-Nepal, Ministry of Health, Dept of Health Services**
- 7. HMG-Nepal, Ministry of Agriculture and Cooperatives, Dept of Livestock Services**
- 8. Integrated Agriculture Reform and Environment Preservation Forum**
- 9. International Centre for Integrated Mountain Development**
- 10. International Nutrition Foundation-Iron Deficiency Project Advisory Service**
- 11. International Pediatric Association**
- 12. Itahari Dairy Co-operative**
- 13. Itahari Women's Groups**
- 14. Lotus Opportunities**
- 15. Massachusetts Department of Agricultural Resources**
- 16. HMG-Nepal Ministry of Agriculture and Cooperatives, Dept of Food Technology and Quality Control, National Nutrition Programme**
- 17. Nepal Agricultural Research Council**
- 18. Trust for Zoonoses and Consumer Awareness**
- 19. Tufts University Biostatistics Research Center**
- 20. Tufts University School of Medicine**
- 21. UNDP-Nepal/UNICEF-Nepal**
- 22. USAID Mission to Nepal**
- 23. Yale Program in International Child Health**



बी. पी. कोइराला स्वास्थ्य विज्ञान प्रतिष्ठान

B.P. Koirala Institute of Health Sciences



Ref. No. 209/060/061/vco

Date: - 2060/11/04

To Whom It May Concern

B. P. Koirala Institute of Health Sciences (BPKIHS) was established on January 18, 1993 and subsequently amended as an Autonomous Health Sciences University on October 28, 1998 with a mandate to work towards developing socially responsible and competent health work force, provide health care and engage in health research. Striving continuously to meet the health needs of eastern region of Nepal in primary, secondary and tertiary levels is its primary responsibility. It will carry out need based Health Systems Research with an aim to use such strategies for overall Community Development of this region. The Institute is located in Eastern Nepal & under its care has now 5 District Hospitals in addition to Tertiary Care Hospital at Dharan. It is going to gradually increase its area of coverage to more districts in Eastern Nepal.

Research Goals:

High priority in research is given to the areas requiring greater attention to solve the existing and emerging health problems threatening the well being of large population groups using community oriented, multi-disciplinary integrated and problem solving approach. Greater emphasis is placed on research which will lead to application of available knowledge for the benefit of large number of people.

To achieve the above mentioned goals the decision makers in their collective wisdom have thought that being good educators, good healers and good researchers can be best accomplished by having a full time, non practicing faculty in a residential campus as outlined in the statutes of the Institute. This in fact, has been considered one of the main strengths of BPKIHS.

It has Post Graduate / Under Graduate / Nursing & Dental Medical Programmes as well as for OT technicians. It has 700 bedded hospital with all specialized departments and some super-specialized departments. We have 24 hours Clinical Laboratory Service (Biochemistry / Pathology / Microbiology) and Emergency. It caters to the population of Eastern Region & bordering towns of Bihar, India.

Dharan has a school for Mentally Retarded children, Orphanages and Under Privileged Children Association (UPCA), looking after the children. SOS children's village is about 30 KM. from Dharan.



बी. पी. कोइराला स्वास्थ्य विज्ञान प्रतिष्ठान

B.P. Koirala Institute of Health Sciences



Ref. No.

This project is very important for the under privileged children of Nepal where >50% children of <14 years are under nourished due to the most important reason i.e. poverty and illiteracy.

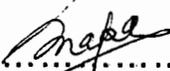
One of our Institute goals is to improve upon the health indicators of Nepal by decreasing mortality and morbidity due to malnutrition and help in the holistic growth and development of children of this region.

Thus, this project of "Animal source foods for Nepali Children" would definitely help in achieving this target.

Institute has always been very supportive and encouraging to its faculties regarding research. Institutional support like record keeping, secretarial assistance, office room with computer & statistical help would be provided.

BPKIHS does have the human resource capacity to take such ambitious project and has been doing so since the time of its inception. A Biochemist to help with the various assays (if kits and equipments are provided) is always there.

This project would have definite impact on the lives of children who are mentally retarded and under privileged. It would not only help in sustainable improvement in nutrition of these young adolescents but also enhance certain skills for economic development and influence on their behavior and outlook towards life.



 Prof. Dr. Lok Bikram Thapa
 Vice Chancellor

Vice-Chancellor



बी. पी. कोइराला स्वास्थ्य विज्ञान प्रतिष्ठान

B.P. Koirala Institute of Health Sciences



Ref. No. 236/060/120

Date: - 16-02-2004

Dear Dr. Miller

We are delighted to be invited to participate in the project "Animal Source Foods for Nepali Children". As you know, we at BP Koirala Institute have been extremely concerned about child nutrition. We have developed a community medicine rotation for our medical students to learn first-hand about the nutritional and health status of children in Nepal. Our PG students and Interns work in rural communities in the region to assist families with their children's health and nutrition.

We believe that the research questions in your proposed project are critical to aid the children of Nepal. Animal source foods are a renewable, locally available source of iron, vitamins, and needed calories for malnourished children. We are interested to work with you to identify and overcome the barriers to improving intake of animal source foods for children in Nepal.

To this end, we agree that our Post Graduate/House Officers/Interns will participate in this research project. We estimate that they will spend about 7-8 weeks each year on the project, including one week of training and orientation. Dr. Nisha Bhatta Asst.Prof. Paediatrics will serve as their supervisor.

We also agree that our clinical laboratory will perform needed assays on blood and stool samples collected on the research subjects. The laboratory agrees to perform these assays at a reduced rate, as indicated, but kits /instruments will have to be provided by the project.

We are also happy to involve our statistical department in this project. The statistical staff will transfer the data collected by our PG students and by the laboratory to appropriate databases for analysis. Our statistical supervisors will provide quality assurance that this work is done correctly, and will also provide quantitative analysis of the data.

We gladly offer the use of our institute Drivers to our American collaborators when they come for semi-annual site visits, and will arrange for their stay in our guest houses at affordable price.

Again, it is our pleasure to be invited to participate in this international collaboration. We feel that an investigation of this scope will provide enormous insight into the remediation of the nutritional deficiencies of our children.

Our sincere gratitude for inviting us to participate in this worthwhile project. We look forward to a successful and fruitful collaboration.

Sincerely yours

Prof. Dr. Rupa Singh
Paedtrician
Ag. Hospital Director



The Alan Shawn Feinstein International Famine Center

Laurie C. Miller, M.D.
Associate Professor of Pediatrics
Tufts University School of Medicine
Box 286
New England Medical Center
750 Washington St
Boston, MA 02111

Dear Laurie,

I was interested to hear about your proposal to GL-CRSP entitled "Animal Source Foods for Nepali Children". As you know, The Feinstein International Famine Center, part of the Gerald J. and Dorothy R. Friedman School of Nutrition Science and Policy at Tufts University, works to prevent and mitigate famine and develop responses that contribute to durable survival strategies for people coping with crisis. Key to the Center's work is building strong partnerships with international, national and indigenous private, governmental, and non-governmental organizations, and providing training in capacity building and humanitarian action.

Your proposed work to improve child malnutrition and micronutrient deficiencies via a community-based approach in Nepal is exactly the type of work the Center is interested in supporting. As you know, we have considerable expertise in Community-Based Health Initiatives as well as Livelihoods Initiatives, in East Africa and Afghanistan. Both these areas fit well into your proposal design. If you are successful in receiving funding for this important work, we would gladly develop collaborations with you and your Nepali team of investigators in order to both support your programs and increase our own geographical coverage..

We look forward to future conversations with you on this vital subject.

Thanks for contacting us!

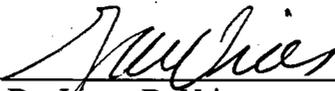
Sincerely,

Dr. Peter Walker, Director.



To Whom It May Concern:

I, Dr. James DeVries, Senior Vice President of Heifer International has read the project proposal "Animal Source Foods for Nepali Children", led by Dr. Laurie Miller, Principal Investigator of the GL-CRSP project and agrees to commit 110,000.00 Dollar US equivalent in cash, time and/or resources listed below (and indicated in the proposal) should the proposal be approved by Global Livestock CRSP.



Dr. James DeVries
Senior Vice President, Programs

March 19, 2004
Date

Heifer Project International
Organization

Resources available to the project (check off all that apply)

Office space	<u> X </u>
Office furniture	<u> X </u>
Computer access	<u> X </u>
Email access	<u> X </u>
Transportation	<u> X </u>
Basic office supplies	<u> X </u>
Telephone	<u> X </u>
Fax	<u> X </u>
Photocopier	<u> X </u>
Staff time	<u> X </u>



March 5, 2004

Dr. Laurie C. Miller
Department of Pediatrics
Tufts University School of Medicine
750 Washington Street
Boston, Massachusetts 02111

Dear Dr. Miller:

We are very pleased to be invited to participate as a collaborating partner in the proposed research project entitled "Animal Source Foods for Nepali Children". We appreciate that this project recognizes the importance of livestock products in the nutrition of children and that the project promotes improved animal productivity at the household and village level as a means for improving the diets of rural children in this country.

As you know, Heifer International is a globally active NGO which focuses on the introduction of livestock and livestock training to the rural and urban poor as tools for poverty alleviation, personal growth and empowerment, and community development. Heifer International/Nepal has been helping underprivileged people in Nepal since 1993. Our activities in Nepal focus on the distribution of livestock and training to rural women's groups with an emphasis on income generation. We are very pleased that you have chosen to focus your project activity on women's groups and local NGOs supported by Heifer International/Nepal in the Itahari area of Sunsari district. We are confident that this project will strengthen the links between animal agriculture and child nutrition in participating communities and provide a model for intervention for other Heifer International projects elsewhere in Nepal and in South Asia.

As a collaborating partner, we are prepared to provide administrative, logistical and technical support from the Heifer International/Nepal organization in support of your field efforts in Itahari and project management in Kathmandu. We understand that the funding agency requires demonstration of in-kind support from collaborating partners. We are committed to providing this in-kind support, the details of which will be provided in the letter of support from Heifer International headquarters in Little Rock, Arkansas.

We recognize this collaboration as a significant opportunity to enhance the effectiveness of our poverty alleviation programs in Nepal and especially to draw attention to the critical link between nutrition and agriculture at the small holder level, particularly as it relates to foods of animal origin. We have enjoyed working closely with you in the planning phase of this project proposal preparation during your two visits to Nepal, and we look forward to collaborating with you further on this important project in the future.

Sincerely yours,

Dr. Bidur Pakrin
Interim Country Director
Heifer Project International /Nepal



Ref: 27/PO/HPIN/03-04

Date: March 22, 2004

Dr. Lauri C. Miller
Department of Pediatrics
Tufts University School of Medicine
750 Washington Street
Boston, Massachusetts 02111

Dear Dr. Miller,

We appreciate your efforts to bring a research project entitled "Animal Source Foods for Nepali Children" in Nepal. We found the concept of this project is well designed.

We are very pleased to be a part of your team in this project planning and project proposal preparation phase. We look forward to working with you on this project in the future.

Please let us know should you require any help from us. We wish you all the best.

Sincerely,

Babita Shrestha
Program Officer

Ramu Bishwakarma
Financial Officer



His Majesty's Government
Ministry Of Health
DEPARTMENT OF HEALTH SERVICES

Tel : 261436
: 261136

(.....)

Pachali, Teku
Kathmandu, Nepal.
March 21, 2004

Ref. No. :

Date :

Dr. Laurie C. Miller
Department of Pediatrics
Tufts University School of Medicine
750 Washington Street
Boston, Massachusetts 02111



Dear Dr. Miller,

We are very much pleased that we have been invited to participate as a collaborating partner in the proposed project entitled "Animal Source Foods for Nepali Children". As most of the Nepalese children are suffering from malnutrition, this project will be able to lift the nutrition status of the children. We appreciate that this project emphasizes on the use of healthy animal source foods for children and thereby preventing the child mortality due to malnutrition.

It is for your kind information that zoonoses subsection under Epidemiology & Disease Control Division; Department of Health Services in the Ministry of Health is the national focal point for the prevention and control of zoonoses in human. The subsection has produced number of guidelines on zoonoses and food borne diseases. This has got network with all the health institutions in the country. As the field research is focused in Itahari, Sunsari district of the eastern Tarai region, the staff of the corresponding areas' health institutions can be mobilized. They can assist in the assessment of zoonoses and collection of samples for zoonoses in human. We in the center can assist you in the assessment of zoonoses in the project area, to develop appropriate training materials for the community level, conduct training in the community and provide supervision of assessment and monitoring teams through zoonoses subsection.

We may require US\$ 10,000 per annum to develop guidelines on zoonoses and food borne diseases, to conduct training and supervise at the community level of the project area. We understand that the donors require in-kind commitment from collaborating partners. So, we are willing to offer computer, electronic mail facility and telecommunications use and other institutional as well as technical support to this project. The estimated value of this in-kind support is US\$ 2,500.

We recognize this collaboration as a great opportunity to promote the nutrition status of the children, raising awareness on prevention and control of zoonoses and food borne diseases as well as improving personal hygiene and seeking behavioral change.

We are looking forward to collaborating with you and thank you very much for inviting our participation for the noble cause.

Sincerely yours,

Dr. Mahendra Bahadur Bista
Acting Director General
Department of Health Services



His Majesty's Government
 Ministry Of Health
DEPARTMENT OF HEALTH SERVICES

Tel : 261436
 : 261136

(.....)

Pachali, Teku
 Kathmandu, Nepal.

Ref. No. :



Date :

TO WHOM IT MAY CONCERN

Dr. Jeetendra Man Shrestha of Zoonoses subsection, Epidemiology & Disease Control Division, Department of Health Services has read the project proposal "Animal Source Foods for Nepalese Children", led by Dr. Laurie Miller, Principal Investigator, and agrees to commit US\$ 2500.00 amount of time and/or the resources listed below (and indicated in the proposal) should the proposal be approved by the global Livestock-CRSP.

Name: Dr. Mahendra Bahadur Bista

21st March, 09.

Date:

Acting Director General

Department of Health Services, Ministry of Health

Resources available for the project (Check off all that apply)

- Office space: X
- Office furniture: X
- Computer access: √
- E-mail Access: √
- Transportation: X
- Basic Office Supplies: √
- Telephone: √
- Fax: √
- Photocopier: X
- Staff time: 40 hours per month



His Majesty's Government
Ministry of Agriculture and Cooperatives
Department of Livestock Services

(.....Section)

His Majesty's Government
Ministry of Agriculture and Co-ops
Department of Livestock Services
Harihar Bhawan, Lalitpur
2052



55-21610
55-22056
55-42644
55-25478

Fax : 55-42915
E-mail : dls@ntc.net.np

Harihar Bhawan, Lalitpur,
NEPAL.

Ref. No. 17.12.....

Date :- March 2, 2004

Subject :-

Dr. Laurie C. Miller
Department of Pediatrics
Tufts University School of Medicine
750 Washington Street
Boston, Massachusetts 02111

Dear Dr. Miller:

We are very pleased to be invited to participate as a collaborating partner in the proposed research project entitled "Animal Source Foods for Nepali Children". We appreciate that this project recognizes the importance of livestock products in the nutrition of children and that the project promotes improved animal productivity at the household and village level as a means for improving the diets of rural children in this country.

As you know, the Department of Livestock Services in the Ministry of Agriculture and Cooperatives is the principal government agency in Nepal responsible for the health and productivity of the nation's livestock. Activities within the Department include clinical and regulatory veterinary services, nutritional and reproductive services, and extension and outreach to livestock producers. The nation is covered by a network of district livestock offices staffed by veterinarians and livestock extension officers. As you intend to focus your field research in Itahari in the eastern Tarai region, the staff of the Sunsari district livestock office would be available to you for assistance in your project relative to the assessment of household animal health and management practices, collection of samples for zoonotic disease assessments and for training on best management practices. In addition, we can provide laboratory support through our regional and central veterinary laboratories for serologic and microbiological testing relative to zoonotic disease surveillance.

We understand that the funding agency requires demonstration of in-kind support from collaborating partners. We would be willing to offer office space, computer and telecommunications use, clerical support and administrative support to this project. We may also be able to perform laboratory assays at cost, which also would represent an in-kind contribution to the project. In addition, we can offer logistical support and assistance in setting up and maintaining the animal health and production component of this project in the Itahari region. The estimated value of this in-kind support is US\$ 5,000.

We recognize this collaboration as a significant opportunity to promote the improvement of animal agriculture in Nepal and especially to draw attention to the critical link between nutrition and agriculture at the small holder level, particularly as it relates to foods of animal origin. We look forward to collaborating with you and thank you again for inviting our participation.

Sincerely yours,

Dr. Shubh Narayan Mahato
Director General
Department of Livestock Services



INF

INTERNATIONAL NUTRITION FOUNDATION, INC.

IDPAS Project Office

Iron Deficiency Project Advisory Service
150 Harrison Street
Boston, MA 02111 USA

Telephone: (617) 636-3770
Fax number: (617) 636-3781
Email: idpas@inffoundation.org

16 February 2004

Dr. Laurie Miller, MD
Tufts New England Medical Center
Boston, MA

Dear Laurie,

Based on our conversations over the past few months, I fully support your new project in Nepal and believe it has the potential to have a significant impact on nutrition of children and women in the southern part of that country... The promotion of Animal Based Foods deserves additional work, and if your initial activities focus on identifying constraints, you should simultaneously find opportunities and clues to effective strategies.

I am impressed that the project plans to use a comprehensive approach to investigating constraints and then designing effective strategies. I believe this can well lead to strategies based solidly in the local environment and social practices and may very well develop new currently unanticipated strategies. Sustainability is also better served through the design the project is developing.

Despite much emphasis on community participation and participatory planning in Nepal, many past projects have lacked effective plan to bring what is learned in "pilot" and "preliminary, small scale efforts" into the realms of decision making at family, community levels on a broad scale basis. They have often lacked planned mechanisms to inform Government at various levels of actions necessary to allow and facilitate community and family behavior change. As you have discussed your preliminary approach, I have been impressed by your openness to developing and including an explicit strategic plan for carrying information gained throughout the project development stage back into the community and to several audiences where it can affect decision-making. I am also impressed by your early collaboration with locally working NGOs and with several Nepalese nutritionists.

Regardless, of any direct association I might have with the project team, our Iron Deficiency Project Advisory Service will continue to support your project's development and implementation.

I also would be happy and interested to bring my previous experience in Nepal and several other countries in nutrition, research communication planning, participatory development and project planning, monitoring and evaluation to assist your team during short term field assignments as also, if needed, here in Boston. As requested, please find my CV accompanying this note.

Best regards,

Gary R. Gleason, Ph.D.
Project Director IDPAS
Iron Deficiency Project Advisory Service
Phone (1-617) 636-3770 Fax: (1-617) 636-3781
E-mail: ggleason@inffoundation.org
Web site: <http://www.micronutrient.org/IDPAS>
Project Office: 150 Harrison Street, Boston, MA, 02111
Gerald J. & Dorothy R. Friedman School of Nutrition Science and Policy at Tufts University

जि. प्र. का. द. नं. ७३६/७०४-०५६/०५७

स. क. प. दर्ता नं. १०८८६

फोन : ५८००५२

सम्पर्क फोन : ५८०३८१



एकिकृत कृषि सुधार तथा वातावरण संरक्षण मंच

इटहरी १, सुनसरी

(फाएरेप)

Integrated Agricultural Reform & Environment Preservation Forum

प. सं. :- ०६०/६१

ITAHARI-1, SUNSARI

च. नं. :- ७४

मिति ०६०/११/२१



विषय :-

TO WHOM IT MAY CONCERN

Mr. Punya Prasad Nuepane, President of Integrated Agriculture Reform and Environment Preservation Forum has read the proposal for the Animal Source Food for Nepali Children led by Dr. Laurie Miller. Principal Investigator and agrees to commit US\$ \$100 amount of time and/or XX resources as indicated in the proposal should the proposal be approved by the Global Livestock CRSP.

Punya Prasad

Mr. Punya Prasad Nuepane
President

Integrated Agriculture Reform and Environment Preservation Forum

Date: 413104

INTERNATIONAL CENTRE FOR INTEGRATED MOUNTAIN DEVELOPMENT



अन्तर्राष्ट्रिय पर्वत क्षेत्र (नयाँ आर्जनात्मिक) अस्था
केन्द्र, हिमालय क्षेत्र, भारत, नेपाल, भुटान, म्यान्मार्
国际山地综合发展中心
अन्तर्राष्ट्रिय एकिकृत पर्वतीय विकास केन्द्र
အိန္ဒိယ, ဗမာ, မြန်မာ, နီပေါ, ဗဟို, မြန်မာ
بین الاقوامی مرکز برائے پہاڑی علاقوں کے ترقی
مرکز بین الاقوامی برای اکتشاف و توسعه کوهها

20th Anniversary
1983 - 2003

Dr. Laurie C. Miller
Department of Pediatrics
Tufts University School of Medicine
750 Washington Street
Boston, Massachusetts 02111
USA

21 March 2004

Dear Dr. Miller:

Thank you for sharing about the proposed research project entitled "Animal Source Foods for Nepali Children". We appreciate that this project recognizes the importance of livestock products in the nutrition of children and that the project promotes improved animal productivity at the household and village level as a means for improving the diets of rural children in this country.

The International Centre for Integrated Mountain Development (ICIMOD) is an international organization devoted to the development of the Hindu Kush-Himalayan (HKH) region. As you can see from our website www.icimod.org, we cover the mountains areas of the eight countries of the HKH Region through our six broad integrated programmes. The Natural Resources Management Programme and the Culture, Equity, Gender and Governance Programme are two in particular that would fit as collaborating partners for your project from within the Centre. I have discussed it some of my relevant colleagues and they would be happy to work with you on developing a comparative regional case study series to look at the issues of gender and poverty that act as constraints to increasing animal source foods in children's diets. A regional initiative, funded under your project, of this kind to cover other countries such as Afghanistan and Bhutan as well where livestock farming is predominant and malnourished women and children a common problem, would not only add value to your project but to what we are doing.

In this respect, once you are in the operational stages of the project you should knock on ICIMOD's doors to explore and make more firm plans and agreements to work together. I won't be around but my colleague Dr. Pema Gyamtsho to whom I'm copying this letter will be open and happy to discuss with you.

With my best personal regards, *and best of luck!*

Sincerely yours,

Phuntshok C. Tshering
Phuntshok C. Tshering
Coordinator, Gender Mainstreaming

CC : Dr. Pema Gyamtsho, Head PPDU and Rangelands Management Specialist, ICIMOD.



international pediatric association
association internationale de pédiatrie
asociación internacional de pediatria

Executive Committee

President

Jane SCHALLER, USA

March 18th, 2004

Executive Director

Jacques SCHMITZ, France

President Elect

Adenike GRANGE, Nigeria

Coordinator

Errol ALDEN, USA

Treasurer

Sergio Augusto CABRAL, Brazil

President of the 24th ICP

Manuel VEGA LOPEZ, Mexico

Ad Personam

Ashfaq AHMAD, Pakistan
Chok-Wan CHAN, Hong Kong
Michael GRACEY, Australia
César WILLAMIZAR, Colombia

Honorary President

Ihsan DOGRAMACI, Turkey

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Ellis D. AVNER, USA
Swati BHAVE, India
Uday BODHANKAR, India
Richard COOKE, UK
Burriss DUNCAN, USA
Philippe EVRARD, France
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José RAMET, Belgium
Jillian SEWELL, Australia
James TUMWINE, Uganda
Ahmed YOUNES, Egypt
Kadriye YURDAKOK, Turkey
Esma CEVEVIK-CEMERLI, Bosnia

Laurie Miller, M.D.
Tufts - New England Medical Center
750 Washington Street, Box 83
Boston, MA 02111

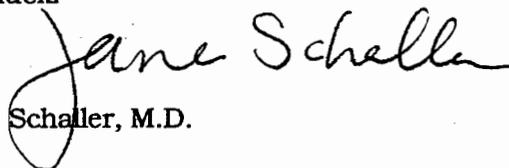
Dear Laurie,

It is a pleasure to provide a letter of support for your project, "Animal Source Foods for Nepali Children". I strongly support your integrated approach to poverty alleviation combined with health and nutrition education to address childhood malnutrition. The focus on Animal Source Foods is appropriate, as the iron, vitamins B12 and A, and zinc in these foods are critical to the health and cognitive development of growing children. It will be wonderful if your model linking agriculture and business development with a strong pediatric component will be transferable to other locales where children are suffering from malnutrition. Strengthening the family and the community are essential to developing sustainable solutions to the problem of malnutrition. The inclusion of an environmental assessment (testing for arsenic) is also a valuable contribution to addressing child health.

Your partnership with the Department of Pediatrics at B.P.Koirala Institute of Health Sciences sounds especially exciting. It will be a wonderful experience for the pediatric house officers to participate in this research project. I'm sure that their exposure to community medicine and chance to work with a multidisciplinary team to address the root causes of poverty and malnutrition will sensitize them to the plight of impoverished children in Nepal and influence their future careers in pediatrics. It will be excellent training to have them develop mini-research projects and present these at local and national pediatric meetings, including the Nepal Pediatric Society. The link provided by your collaborator, Dr. Rupa Singh, to the Nepal Pediatric Society, is especially important, as this organization will be an excellent way to disseminate the results of your investigation to the entire pediatric community in Nepal (and beyond).

As you are well aware, the International Pediatric Association, comprised of national pediatric societies from 150 countries throughout the world, strives to improve the health and the lives of children. As president of the IPA, I realize how important projects such as this in collaboration with member countries are very beneficial for children. We look forward with interest to the results of your investigations.

Best of luck!


Jane G. Schaller, M.D.

Each for all

All for each



श्री दुग्ध उत्पादक सहकारी संस्था लिमिटेड

इटहरी, सुनसरी

(र० नं० ३/३/१ (५६) ०४५/०४६)

MILK PRODUCT COOPERATIVE LTD.

Itahari-1, Sunsari

(Regd. No.3/3/1(56)045/046)

प० सं० :- ०६०/०६९

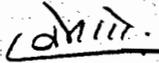
च० नं० :- ६४

मिति ०६०/११/२९

विषय :-

TO WHOM IT MAY CONCERN

Mr.Khem Nath Kafle President of Itahari Dairy Producers Cooperative has read the proposal for the Animal Source Food for Nepali Children led by Dr. Laurie Miller. Principal Investigator and agrees to commit \$65.00 amount of time and 585.00 resources as indicated in the proposal should the proposal be approved by the Global Livestock CRSP.


Mr. Khem Nath Kafle
President
Itahari Dairy Producers Cooperatives

Date: 4/3/04

TO WHOM IT MAY CONCERN

Mrs. Indra Maya Poudel, Treasurer of Srijansil Women's Gorups has read the proposal for the Animal Source Food for Nepali Children led by Dr. Laurie Miller, Principal Investigator and agrees to commit \$100.00 amount of time and/or XXX resources as indicated in the proposal should the proposal be approved by the Global Livestock CRSP.

Indra Maya

Mrs. Indra Maya Poudel,
Treasurer
Srijansil Women's Gorups

Date: 413104

Mrs. Shanta Regmi, President of Pragati Women's Gorups has read the proposal for the Animal Source Food for Nepali Children led by Dr. Laurie Miller, Principal Investigator and agrees to commit \$100.00 amount of time and/or XXX resources as indicated in the proposal should the proposal be approved by the Global Livestock CRSP.

Shanta Regmi

Mrs. Shanta Regmi,
President
Pragati Women's Gorups

Date: 413104

Mrs. Bhupa Devi Dahal, President of Jagriti Women's Gorups has read the proposal for the Animal Source Food for Nepali Children led by Dr. Laurie Miller, Principal Investigator and agrees to commit \$100.00 amount of time and/or XXX resources as indicated in the proposal should the proposal be approved by the Global Livestock CRSP.

Bhupa Devi Dahal

Mrs. Bhupa Devi Dahal,
President
Jagriti Women's Gorups

Date: 413104

TO WHOM IT MAY CONCERN

Mrs. Shanta Poudel, President of Aadarsha Women's Gorups has read the proposal for the Animal Source Food for Nepali Children led by Dr. Laurie Miller, Principal Investigator and agrees to commit \$100.00 amount of time and/or XXX resources as indicated in the proposal should the proposal be approved by the Global Livestock CRSP.

Shanta Poudel

Mrs. Shanta Poudel,
President
Aadarsha Women's Gorups

Date: 413104

Mrs. Ambika Wasti, President of Sagarmatha Women's Gorups has read the proposal for the Animal Source Food for Nepali Children led by Dr. Laurie Miller, Principal Investigator and agrees to commit \$100.00 amount of time and/or XXX resources as indicated in the proposal should the proposal be approved by the Global Livestock CRSP.

Ambika Wasti

Mrs. Ambika Wasti,
President
Sagarmatha Women's Gorups

Date: 413104



Ref. No: AG/LO/010/048

March 8, 2004

Dr. Laurie C. Miller
Department of Pediatrics
Tufts University School of Medicine
750 Washington Street
Boston, Massachusetts 02111

Dear Dr. Miller:

We are very pleased to be invited to participate as a collaborating partner in the proposed research project entitled "Animal Source Foods for Nepali Children". We appreciate that this project recognizes the importance of livestock products in the nutrition of children and that the project promotes improved animal productivity at the household and village level as a means for improving the diets of rural children in this country.

Lotus Opportunities is a private organization that was emanated in anticipation to promotion of a more sustainable enterprise development in Nepal and to be a "partner in development". We cultivate relationships with service providers by enacting the role of a facilitator and strengthening them for a more economic development in Nepal. The organization looks at itself as a "partner in development" by tying up with complementing organizations in the development sector that have a common operational periphery of enterprise development. Towards this end, the organization believes that it is only through such a collaborative approach that enterprise development, as a goal, can be achieved. Instead of spreading out efforts, in isolated forms, through policies and programmes by individual organizations in enterprise development, results would be more productively reached through partnerships and cooperation in this sector.

Lotus Opportunities works through three different operational themes which include:

- Knowledge Management
- Project Facilitation
- Matchmaking

As a collaborating partner, we are prepared to provide Business development Services, Market analysis and assessment and capacity building in support of your field efforts in Itahari and project management in Kathmandu. We understand that the funding agency requires demonstration of in-kind support from collaborating partners.



We are committed to providing this in-kind support equivalent to US\$684.00 per year in the form of the following:

1. Remuneration : US\$544.00 per year
2. Direct Expenses : US\$140.00 per year

We recognize this collaboration as a significant opportunity to enhance the effectiveness of our poverty alleviation programs in Nepal and especially to draw attention to the critical link between nutrition and agriculture at the small holder level, particularly as it relates to foods of animal origin.

Sincerely,

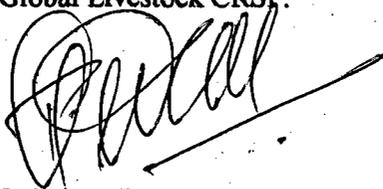
A handwritten signature in black ink, appearing to read 'Rajiv Pradhan', with a long horizontal line extending to the right.

Rajiv Pradhan
Executive Director
Lotus Opportunities

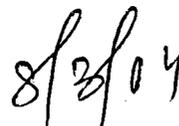
Ref. No: AG/LO/010/047

To Whom It May Concern

Mr. Rajiv Pradhan, of Lotus Opportunities, has read the project proposal "Animal Source Foods for Nepali Children", led By Dr. Laurie Miller, Principal Investigator and agrees to commit US\$ 684.00/year amounting to US\$ 2052 for three years amount of time and/or resources listed below (and indicated in the proposal) should the proposal be approved by Global Livestock CRSP.



Rajiv Pradhan
Executive Director
Lotus Opportuniteis



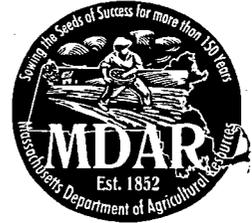
Date

Resources available to the project (check off all that apply)

Office space	_____	
Office furniture	_____	
Computer access	_____	
Email access	_____	
Transportation	_____	
Basic office supplies	US\$140.00 per year	
Telephone	_____	
Fax	_____	
Photocopier	_____	
Staff time	US \$ 544 per year	Rajiv Pradhan 1.5 days/month Suhrid Prasad Chapagain 6 days/month
Total	US \$ 684 per year	



THE COMMONWEALTH OF MASSACHUSETTS
EXECUTIVE OFFICE OF ENVIRONMENTAL AFFAIRS
Department of Agricultural Resources
251 Causeway Street, Suite 500, Boston, MA 02114
617-626-1700 fax 617-626-1850 www.Mass.gov/AGR



MITT ROMNEY
Governor

ELLEN ROY HERZFELDER
Secretary

KERRY HEALEY
Lieutenant Governor

DOUGLAS P. GILLESPIE
Commissioner

March 23, 2004

Dr. Montague Demment
Global Livestock CRSP
University of California
Davis, California 95616

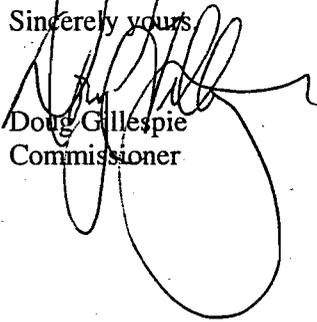
Dear Dr. Demment:

I am writing to express the support of the Massachusetts Department of Agricultural Resources for the proposed project *Animal Source Foods for Nepali Children*. Dr. Laurie Miller of Tufts University is the Principal Investigator. Dr. David Sherman and Mr. Brad Mitchell of my staff are participants in the project.

Based on input from Mr. Mitchell and Dr. Sherman following their assessment visits to Nepal, I see that there are some interesting opportunities for application of lessons learned in Nepal that are applicable to small scale agriculture in Massachusetts. Already, ideas concerning the use of biodigestors on dairy farms and dissemination of nutritional information at farmers markets already have struck me as having application in Massachusetts. No doubt future ideas and applications will become apparent if this project proposal is funded and implemented

I have read the proposal for this project. Should the project be funded, my organization agrees to commit \$5,000 in in-kind funding, annually for the three year life for the project. This in-kind funding includes office space, phone, fax, computer, internet service and related support services.

Sincerely yours,


Doug Gillespie
Commissioner



THE COMMONWEALTH OF MASSACHUSETTS
EXECUTIVE OFFICE OF ENVIRONMENTAL AFFAIRS
Department of Agricultural Resources
251 Causeway Street, Suite 500, Boston, MA 02114
617-626-1700 fax 617-626-1850 www.Mass.gov/DFA



MITT ROMNEY
Governor

ELLEN ROY HERZFELDER
Secretary

KERRY HEALEY
Lieutenant Governor

DOUGLAS P. GILLESPIE
Commissioner

Montague Demment
Global Livestock CRSP
University of California
Davis, CA 95616

March 26, 2004

Dear Dr. Demment:

I am writing to express my strong interest in participating in the proposed project *Animal Source Foods for Nepali Children*.

As a member of the Assessment team for this project, I saw first-hand the need for, and the potential benefit of this project to the children, people and government of Nepal. Our proposal was developed with input from a wide variety of governmental and non-governmental organizations working in Nepal in the areas of nutrition, economic development, agriculture and health. Most importantly, the project was designed with significant input from small landholders and women's groups in the community in which the project is proposed. I am confident this project will be of benefit in Nepal and in other developing countries.

Again, I am eager to participate in this project. Thank you for your consideration.

Sincerely,

Brad Mitchell
Director, Division of Consumer and Regulatory Services



THE COMMONWEALTH OF MASSACHUSETTS
EXECUTIVE OFFICE OF ENVIRONMENTAL AFFAIRS
Department of Agricultural Resources
251 Causeway Street, Suite 500, Boston, MA 02114
617-626-1700 fax 617-626-1850 www.Mass.gov/DFA



MITT ROMNEY
Governor

ELLEN ROY HERZFELDER
Secretary

KERRY HEALEY
Lieutenant Governor

DOUGLAS P. GILLESPIE
Commissioner

March 26, 2004

Dr. Montague Demment
Global Livestock CRSP
University of California at Davis
Davis, CA 95616

Dear Dr. Demment:

I am writing to express my enthusiasm for participation in the proposed project entitled "Animal Source Foods for Nepali Children" which is being submitted to GL-CRSP for consideration of funding.

I feel very fortunate to have been part of the assessment team that visited Nepal to develop the project proposal. I believe that Nepal is a very appropriate place to investigate the barriers to increasing availability and utilization of animal source foods for undernourished children. We have strived to develop a novel multi-disciplinary approach to problem solving that links animal agriculture directly to child nutrition and which addresses social, economic, veterinary and human health concerns in an integrated manner. I was very impressed with the level of veterinary expertise in Nepal and as a veterinarian, look forward particularly to working with my Nepali colleagues.

We very much appreciate having had the opportunity to participate in the assessment phase of this grant process and keenly hope that we will have the opportunity to implement our project proposal. I thank you in advance for your consideration of our proposal.

Sincerely yours,

David M. Sherman, DVM, MS, DACVIM
Director, Animal Health, Biosecurity and Dairy Services
Massachusetts Department of Agricultural Resources



H.M.G. OF NEPAL
MINISTRY OF AGRICULTURE & COOPERATIVES
Department of Food Technology and Quality Control

Tel 4262369
4262741
4240016
4262739
Fax 977-1-4262337

Our Ref. No
Your Ref No

Babar Mahal
Kathmandu, Nepal

TO WHOM IT MAY CONCERN

Dr. Tika B.Karki, Director General of the Department of Food Technology and Quality Control, has read the project proposal "Animal Source Foods for Nepali Children", led by Dr. Laurie Miller, Principal Investigator, and agrees to commit US \$ 1000.00 amount of time and/or the resources listed below (and indicated in the proposal) should the proposal be approved by the Global Livestock-CRSP.

Signature

Date

: 2nd March 2004

Name

: Dr. Tika B. Karki

Position

: Director General

Organization

: Department of Food Technology and Quality Control

Resources available for the project:

1. Office space
2. Office furniture
3. Computer access
4. Email access
5. Transportation
6. Basic office supplies
7. Telephone
8. Fax
9. Photocopier
10. Staff time : 30 hours per month



NEPAL AGRICULTURAL RESEARCH COUNCIL

(Established by HMG/Nepal under the Nepal Agricultural Research Council Act, 2048 B. S.)



(..... DIVISION)

Ref No.

Dispatch No.: 2410

NARC Building
Singhadurbar Plaza
Kathmandu, NEPAL

Date :-

March 02, 2004

Letter of Intent

Dr. Laurie C. Miller, M.D.
Principal Investigator
Tufts University School of Medicine
750 Washington State
Boston, MA 02111 USA

Dear Dr. Laurie C. Miller

With reference to the letter of Dr. David M. Sherman Director, Animal Husbandry, Biosecurity and dairy services, addressed to Mr. Hari Ram Shrestha, Director, Livestock and Fishery Research, Nepal Agricultural Research Council dated Feb 26th 2004 followed by detail discussion with him and Ms. Babita Shrestha, Program Coordinator, Heifer International Nepal, we are delighted to participate in the project "Animal source foods for Nepali children". We found from the discussion that the objectives of the proposed research project match with the mandate of Nepal Agricultural Research Council and fits very well with our research policy.

As you know, NARC operates its livestock, poultry and fishery research / production activities in the eastern region through the Regional Agriculture Research Station, Tarahara, Sunsari District which is conveniently located within the proposed, Project area.

We, as the Agricultural Research Organization are very much excited to work with you and collaborate on the proposed research project designed to benefit the children of Nepal. We are especially interested in the potential for providing better nutrition to the children through dairy, fish and poultry products including research and training in this regard.

We would be willing to offer this project office premises and space for storing the project equipments etc., use of computer facilities, secretarial and administrative support. In addition, we offer sharing the land for raising the animals, fish and poultry birds, staffs and their time. We also will offer the logistic supports for transportation and communication etc. All this supports in kind amounts between US. \$ 5,000.00 to US \$ 7,000.00.

We hope that we will have chance to collaborate with you to make this proposal happen in reality.

We highly appreciate your invitation for our participants. Thank you very much again.

With best regards.

Dr. Surya P. Pandey
Director
Planning and Coordination
Nepal Agricultural Research Council

Director Planning and Co-ordination



TRUST FOR ZONOSSES AND CONSUMER AWARENESS

429/12 Ichhunadi Marg, Baluwatar - 4, Kathmandu,
Tel. No. 4435835, E-mail: Truzca_nepal@hotmail.com
Website: www. truzcanepal.org.np

TRUZCA NEPAL

Honorary members

Dr. S. P. Pradhan
Dr. N. B. Singh

Executive committee

President
Dr. G. N. Gongal

Secretary
Mr. Kaji B. Shrestha

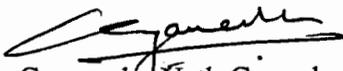
Treasurer
Mr. Sudhir P. Pradhan

Members
Mr. O. K. Shrestha
Mr. Jitendra Thike
Mrs. Neema Gongal
Dr. K. C. Thakuri

Subject: TO WHOM IT MAY CONCERN

Dr. G. N. Gongal, of TRUZCA NEPAL, has read the project proposal "Animal Source Foods for Nepali Children", led by Dr. Laurie Miller, Principal Investigator, and agrees to commit 40 hours per month and/or the resources listed below (and indicated in the proposal) should the proposal be approved by the Global Livestock-CRSP. I assure you that our team members will do our best for the successful implementation of proposed project activities in Nepal. Please find herewith a copy of CV of each team member for official use.

Thanking you for cooperation.


Gyanendra Nath Gongal
Name



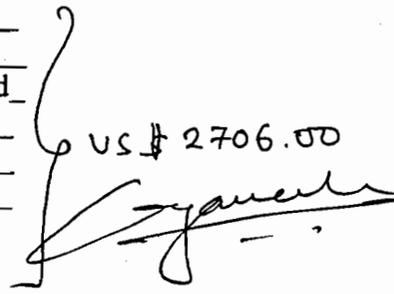
March 7, 2004
Date

TRUST FOR ZONOSSES AND CONSUMER AWARENESS
Organization

Resources available for the project (check off all that apply):

Office space _____
Office furniture _____
Computer access As required _____
Email access As necesasary _____
Transportation _____
Basic office supplies _____
Telephone As required _____
Fax On request _____
Photocopier _____
Staff time 40 (hours per month)
Others _____

US \$ 2706.00





Tufts-New England Medical Center



The principal teaching hospital for
Tufts University School of Medicine

March 20, 2004

Laurie Miller, MD
Associate Professor of Pediatrics
Tufts-New England Medical Center
750 Washington Street, Box 63
Boston, MA 02111

Division of Clinical Care Research
Tel: 617-636-5065
Fax: 617-636-8023

Harry P. Selker, MD, MSPH
Chief

Carol J. Seidel, BS
Administrative Manager

Faculty
David A. Adler, MD
Ethan M. Balk, MD
Joni R. Beshansky, RN, MPH
Kathleen M. Bungay, PharmD
Hong Chang, PhD
Barbara L. Gandek, MS
John L. Griffith, PhD
Richard C. Hermann, MD, PhD
Patricia L. Hibberd, MD, PhD
Judy A. Hinchey, MD
Julie T. Irish, PhD
Harmon S. Jordan, ScD
David M. Kent, MD, MS
Manlik Kwong, BS
Kathryn E. Lasch, PhD, MA, MSSW
Joseph Lau, MD
Debra J. Lerner, PhD
Wenjun Li, PhD, MS
John M. Ogren, MD
Inga Peter, PhD
William H. Rogers, PhD
Robin Ruthazer, MPH
Dana Gelb Safran, ScD, ScM
Christopher H. Schmid, PhD
Jane C. Scott, ScD, MSN
Paul C. Stark, ScD
Norma C. Terrin, PhD
Chenchen Wang, MD, MSc
John E. Ware, Jr, PhD
Ira B. Wilson, MD
Deborah R. Zucker, MD, PhD

Associated Faculty
Ralph B. D'Agostino, PhD
Robert J. Goldberg, PhD
William A. Gouveia, MS
Andrew S. Levey, MD
Timothy McAlindon, MD, PhD
Brian J. Pereira, MD
Robert D. Sege, MD, PhD
David R. Snyderman, MD
James E. Udelson, MD

AHRQ Evidence-based
Practice Center
Biostatistics Research Center
Center for Cardiovascular
Health Services Research
Center for Clinical
Evidence Synthesis
Clinical Care Research
Training Program
Clinical Research Graduate
Program, Sackler School
Mental Health Services
Research Group
New England Cochrane Center
Tufts-New England Medical Center
Clinical Research Institute
The Health Institute

Office Address
35 Kneeland Street
Floors 8-11
Boston, MA

Tufts-New England Medical Center
Established 1796

750 Washington Street
Tufts-NEMC #063
Boston, Massachusetts 02111

Dear Laurie:

As the Director of the Biostatistics Research Center (BRC) at Tufts - New England Medical Center, I enthusiastically support your application for the project "Animal Source Foods for Nepali Children".

Since 1989 as an NIH-service center the BRC has provided statistical support to researchers throughout the Tufts-New England Medical Center. The staff of the BRC remain committed to providing statistical and research support for clinical researchers and fellows and we are closely integrated with other hospital groups active in supporting clinical research, including the General Clinical Research Center (GCRC.) Our experience and current statistical and database support for clinical researchers at Tufts-New England Medical Center, Tufts Universities, and affiliated centers, fits well with the proposed project.

I am extremely interested in the assessment of associations of nutrition with medical outcomes and functional status, and am currently the director of the data-coordinating centers for two large nutritional studies of elderly individuals in Boston. I look forward to collaborating with you on the monitoring and evaluation of this multidisciplinary intervention and to providing statistical and analytic guidance and support.

Sincerely yours,

John L. Griffith, PhD
Associate Professor of Medicine
Director, Biostatistics Research Center
Statistical Director, General Clinical Research Center
Tufts - New England Medical Center



TUFTS UNIVERSITY

School of Medicine

Office of the Dean

March 25, 2004

Laurie Miller, M.D.
Department of Pediatrics
Tufts University School of Medicine

Dear Laurie,

We are delighted to support your grant application "Animal Source Foods for Nepali Children". As you know, Tufts University has active research programs throughout the world and is committed to investigating ways to improve health for all. Your project reflects our well-established interests in nutrition and child health. I'm especially pleased to see the linkage you have established between the Gerald J. and Dorothy R. Friedman School of Nutrition Science and Policy at Tufts University and our Department of Pediatrics. The connection between Tufts University and B.P. Koirala Institute of Health Sciences in Dharan, Nepal is also exciting. It will be a wonderful opportunity for their young pediatricians to get involved in locally relevant research and we would hope that we could develop some educational exchange programs with them in the future.

As per the requirements of the potential donor for your project, Tufts University agrees to a cost-sharing contribution of \$27,000 over the next three years. This will include \$9,000 each year to support your salary and the associated fringe benefits as they relate to your time spent on this project.

Best of luck with your research.

Sincerely,

Mike

Michael Rosenblatt, MD
Dean
Professor of Physiology

8 March 2004

Dr. Laurie C. Miller
Associate Professor of Pediatrics,
Tufts University
Animal Source Foods for Nepali Children

Dear Dr. Miller,

RE: Animal Source Foods for Nepali Children

It was a pleasure to meet with you and your colleagues to further explore collaboration for the development of the Animal Source Foods for Nepali Children research project. We welcome this research and its aim of finding models to increase animal food consumption among young children in Nepal. Although there are many causes of the high rates of child malnutrition presently seen in Nepal, the generally low animal food intake is one of the reasons for the too low intake on nutrients – both in terms of calories and micronutrients.

More specifically, we find this research valuable as the findings most likely can be incorporated in the programmes supported by UNDP and UNICEF. As you are aware, UNICEF Nepal and UNDP Nepal jointly support decentralized, community based programmes aimed at reduction of human poverty. UNDP supports the creation of community organizations for savings and credit, which is linked to income generation schemes and strengthening of decentralized governance (Participatory District Development Programme (PDDP)/ Local Governance Programme). Through the Decentralised Action for Children and Women (DACA) Programme, UNICEF 'piggy-backs' community awareness and demand creation activities and strengthening of service delivery for social development onto the UNDP Programme. The prevalence of child malnutrition is a proxy indicator of progress in these efforts and, for the UN as a whole, is one of the key indicators for measuring human poverty.

To date, the joint programmes have found remarkable reduction in the rate of child malnutrition in the programme areas: more than 50% overall reduction (from 43% to 21%). However, in spite of this success, the overall low quality of the food given to young children - high bulk and low energy and micronutrient sparse – makes further progress difficult. To address the critical area of micronutrient deficiency, specifically iron deficiency anaemia, UNICEF has been exploring alternative methods to enhance young children's local diet through supplementation and fortification. A more ideal way to decrease anaemia, of course is to increase consumption of animal foods.

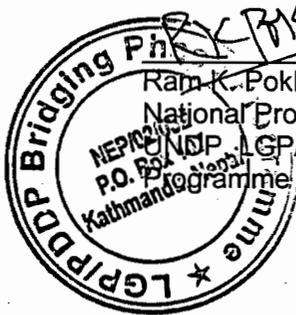
Furthermore, detailed analysis of programme data has shown that the level of child malnutrition in marginalized families and communities decreases more slowly than that of children in non-marginalised communities. To enable marginalized children and their families to participate and benefit from the joint programmes, further support - both

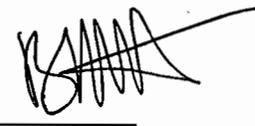
nutritionally and economically - is required. Income generation through nutrient-rich animal foods have a potential to address both these issues.

Both UNICEF and PDDP/LGP are interested in the research project proposed by Animal Source Foods for Nepali Children/Heifer Project as the project will develop models for income generation and at the same time ensure improved quality of the food given to young children. In addition, the project will provide valuable biochemical data regarding the nutritional status of children in response to increased animal food consumption, an area that has seen limited attention in Nepal.

UNICEF and PDDP/LGP will be able to offer technical assistance for nutrition education and social mobilisation in support of this research. Depending upon internal financial and human resource availability, UNICEF might also be in a position to fund a sub-project in a second geographic area to more fully address the same issues within most marginalized communities.



Ram K. Pokharel
National Programme Manager
UNDP, LGP/PDDP Bridging Phase
P.O. Box 1000
Kathmandu, Nepal




P. O. Blomquist,
Chief, Nutrition and Care
UNICEF




UNITED STATES OF AMERICA
AGENCY FOR INTERNATIONAL DEVELOPMENT
MISSION TO NEPAL

March 4, 2004

Subject: USAID/Nepal's Endorsement of Tuft's University Proposal: Animal Source Foods for Nepali Children

To Whom It May Concern:

We are very pleased to write this letter of support for the above subject proposal. It is consistent with our mission objectives. USAID/Nepal appreciated the early involvement in the assessment and design process where we met and were briefed by representatives from the lead institution (Tufts University) and their partners.

The proposed multi-sectoral approach could be a valuable pilot that sheds light on the synergies between programs in agriculture and health. This would be useful in addressing the complex problem of household activities that have a direct and indirect impact on children's nutritional status. We feel that this pilot project has the potential to provide the Mission with useful lessons as we begin preparation for our new strategy five-year strategy (2006-2011).

The selection of Heifer International Nepal as a key partner, certainly strengthens the potential for sustainability as well as implementing a "quality" project. The other partners that include the public and private sector are also suitable. The methods and strategies proposed are sound given the many challenges the present conflict in Nepal poses to many programs. In addition, the income generation schemes, particularly in the geographic area which was selected, will be viewed favorably by the population and aid in the success of the project.

Sincerely,

Sheila Lutjens
Director
Office of Health and Family Planning

Naran Chanmugam
Deputy Director
Office of General Development

YALE UNIVERSITY

SCHOOL OF MEDICINE

*Division of Infectious Diseases
Department of Pediatrics
Yale Child Health Research Center
464 Congress Avenue
New Haven, Connecticut 06520*



Michael Cappello, M.D.
*Associate Professor of Pediatrics and
Epidemiology & Public Health*

Phone: 203 737-4320

Fax: 203 737-5972

Email: michael.cappello@yale.edu

March 4, 2004

Laurie Miller, M.D.
Department of Pediatrics Box 286
Tufts-New England Medical Center
750 Washington St
Boston, MA 02111

Dear Dr. Miller,

I would be delighted to collaborate with you on the nutrition project based in Nepal. Our laboratory staff will offer technical expertise, materials, and training in order to characterize the role of soil-transmitted nematodes, particularly hookworm, in malnutrition. If needed, members of our team will provide on-site training to technical staff and researchers in Nepal. We would also be able to host Nepali graduate students in our laboratory at Yale University School of Medicine, in order to enhance the capacity of our international colleagues to conduct research on endemic diseases.

We look forward to participating in this important international project aimed at improving the health of children.

Regards,

Michael Cappello MD
Associate Professor of Pediatrics and Epidemiology & Public Health
Director, Yale Program in International Child Health
Yale University School of Medicine

Dr. Laurie C. Miller
Department of Pediatrics
Tufts University School of Medicine
750 Washington Street
Boston, Massachusetts 02111

17 March, 2004

Dear Dr. Miller:

I am very pleased to have participated in the assessment and formulation proposed research project entitled "Animal Source Foods for Nepali Children". I appreciate that this project recognizes the importance of a multidisciplinary "livelihood opportunities" approach to promoting improved animal productivity at the household and village level as a means for improving the diets of rural children in Nepal and perhaps throughout the region.

As you know, I have a long experience working in the field with rural women and small livestock enterprise development. Most recently I have been working in post-conflict Afghanistan, making the linkages between nutrition, agriculture, food security and poverty reduction. This project will strengthen the links between animal agriculture and child nutrition in participating communities and provide a model for intervention in Nepal and in South Asia.

Although I am in the process of moving to a new job with the Foreign Agriculture Service of the Department of Agriculture, I am sure that I will find the time to follow this project and to collaborate and offer my expertise in livelihoods analysis, gender issues and community development.

Sincerely yours,



Marilee Kane
Consultant
Gender and Community Development Specialist

BIOGRAPHICAL SKETCHES

1. Personal

Nisha Keshary Bhatta

Assistant Professor

Department Of Pediatrics & Adolescent Medicine

B. P. Koirala Institute Of Health Science

Dharan

NEPAL

Nationality: Nepal

Year of Birth: 1967

Email: nishakesharyabhatta@yahoo.com

Phone:00977-25-528919 @Dharan

00977-1-4497747 Kathmandu

2. Academic Credentials

MD (Doctor of Medicine) Pediatrics All India Institute Of Medical Sciences (AIIMS) New Delhi , INDIA

MBBS (Bachelor of medicine and Bachelor of Surgery) S.N. Medical College,Agra University ,Agra ,INDIA

COURSE WORK

MD (Doctor of Medicine) Pediatrics

Completed residency programme of Department of Pediatrics at All India Institute of Medical Sciences ,New Delhi and awarded the degree of M.D. (Doctor Of Medicine) Pediatrics , Received intensive training in pediatric infectious diseases , pediatric chest diseases and intensive care , Neonatology, Pediatric cardiology and Pediatric Neurology during the residency training, Completed the thesis work **Thyroid Abnormalities in Young Children With Down Syndrome** during the study.

MBBS (Bachelor of medicine and Bachelor of Surgery)

3. Key Qualification, Skills and Area of Expertise

- Initiated first **Clinical Genetic Service in Nepal** in the form of Genetic Clinic at the Department of pediatrics at B.P.Koirala Institute of Health Sciences Dharan , this clinic provides its services through screening ,chromosomal analysis ,genetic counseling and multidisciplinary rehabilitation programme for patients with genetic disorders. Trained in genetic counselling, management of genetic disorders during residency programme ,the thematic areas of interest include working for patients with mental retardation in association with various public private partnership organization .
- Special interest in **Pediatric Respiratory Diseases and Pediatric Intensive Care** , actively involved in improving the pediatric intensive care in tertiary teaching university teaching hospital.
- Specific interest in **Health Professionals Education and Medical Research** ,key role in organising and implementing Academic Teaching programmes for undergraduates ,post graduates ,Dental students and Nursing students in a tertiary care university teaching hospital in Nepal.
- Involved in implementation of **Integrated Management Of Childhood Illness (IMCI)** in Nepal
- Active participation in **Community Pediatrics** through giving Public lectures in awareness raising in programmes maternal and Child Health

4. Relevant Experiences

4.1 Experience in "Worldwide" Programs

HIB
IMCI
LACTATION MANAGEMENT CLINIC

4.2 Professional Trainings & Participation in seminars ,workshops

- **IMCI 11 Days Training Course (17-27 Sept 2001)** Organized by WHO Division of Child Health And Development At Kanti Children Hospital, KTM, Nepal
- **IMCI 5 Days Facilitator Training Course (18-22 Aug 2002)** Organized by NEPAS and WHO at Kanti Children Hospital ,KTM, NEPAL
- **IMCI Clinical Instructor (6-15 Sept 2002) & (1- 10 Oct 2002)** at BPKIHS, Dharan, Nepal
- **Trainer for IMCI Facilitator Training course 9-13th feb 2003** at BPKIHS Dharan

- Trainer for **IMCI orientation training of Doctors & Nurses** Aug 2003 at BPKIHS Dharan
- Resource person in **Maternal and Child health (MCH) training** organized by Department of obstetrics and Gynecology at BPKIHS on 2002 & 2003
- Trainer in **Medical Records ICD –10 Course for medical records Technicians of Nepal** organized by BPKIHS on at 2001,
- Participated in the **Refresher course** and attended the workshop in **Pediatric Intensive care** in the **International Critical care congress 2002**
- Presented paper titled: **Thyroid Abnormalities in of young Children with Down Syndrome** in the **1st conference of Pediatric Association of SAARC Countries& XI Nepalese Congress of Pediatrics** 14-16th march 2002 ;
- Presented poster titled poster presentation :**Festival, food & foreign body in trachea of neonate** at 21st All Nepal Medical Association Conference (ANEMECON –21) held at Dharan on march 5-8 2002
- Participated as Resource person in training workshop on **Pediatric Emergency & Critical care** May 23-25 2001.
- Participated in **Essential Epidemiology and Research Method** workshop January 27-31 2002
- Participated in **Teachers Training workshop on Assessment Techniques** 28-30 th march 2001
- Participated in **Inter-country Meeting for Information and Faculty Exchange in Health and related Sciences and Specialities** organised by WHO, SEARO 19-22 nov 2002 at Chandigarh, India
- Participated in **22nd IUATLD Eastern Region Conference.** Sept 22-26th ,2003 at Kathmandu Nepal

5. Employment History

Assistant Professor

28th Jan 2002 to present

Department of Pediatrics & Adolescent Medicine
B. P. Koirala Institute of Health sciences
Dharan
Nepal

Senior Resident

28th Jan 2001-27th Jan 2002

Department of Pediatrics & Adolescent Medicine
B. P. Koirala Institute of Health sciences
Dharan
Nepal

Junior Resident

16 th July 1996 –27 th July 1997

Department of Pediatrics & Adolescent Medicine
B. P. Koirala Institute of Health sciences
Dharan
Nepal

House officer

12th Feb 1995-16 July 1996

Department of Pediatrics & Adolescent Medicine
B. P. Koirala Institute of Health sciences
Dharan

6. Selected Publications and Reports

1. Epidemic Dropsy in the eastern region of Nepal J of Tropical pediatrics Vol 45 :1,8-18, 1999.

2. Clinical Laboratory study of Kala zar In Dharan J of Tropical pediatrics Vol 45 :2,96-97, 1999

7. Other Skills

Trainer: IMCI, Social mobilization, Awareness raising programmes and issues related to maternal and child health

Computers: Extensive skills in Microsoft Word, Excel, PowerPoint,

8. Membership of Professional Organization, Awards And Honours Other Skills

9. Languages

Nepalese - Native;

English,

Hindi - Excellent;

10. References:

1. Prof Veena Kalra
Professor & Head of the Department
Department Of Pediatrics
All India Institute Of Medical Sciences
(AIIMS)
New Delhi
India
Email :
Phone

3. Prof I. C. Verma
Professor & Head of the Department
Department Of Pediatrics
Sir Ganga Ram Hospital
Rajendra nagar
New Delhi
India

2. Prof P.S.N. Menon
Department Of Pediatrics
All India Institute Of Medical Sciences
(AIIMS)
New Delhi
India

4. Prof Ramesh Kant Adhikari
Professor of Pediatrics & Dean
Institute of Medicine
Tribhuvan University Teaching Hospital (TUTH)
Maharajganj, Kathmandu

Mr. Ramu Bishwakarma
Post Box No. 6043, Imadol, Lalitpur, Nepal
Home phone: 977-1-4354254
Work phone: 977-1-5532554
Alternate work: 977-1-5544841
ramu@hpinepal.org.np

PROFESSIONAL POSITIONS

July 2001- **Heifer Project International, Nepal**

Present *Finance Officer*

- Prepare and send monthly/quarterly/semiannual and annual HPI Nepal Program Operations and Projects financial report to HQ.
- Give substantive efforts to Heifer International and its partner organizations to develop their institutional capacity.
- Travel to the Project Area to monitor and review the performance of the Partner Organizations in term of the best mobilization of Heifer fund ensuring the full accountability to achieve its core mission- "Alleviation of hunger and poverty".
- Advise Country Director on maintenance of good financial position.
- Ensure that accurate and complete accounting, reporting and internal control systems are functioning and that all relevant financial records are maintained on both in ledger and in the computer (both the hard and soft copy).
- Provide assistance/training to project partners on good book keeping practices.
- Prepare payroll register and process monthly payroll.
- Work in coordination with the Administrative Officer in HPI Nepal property insurance management.
- Conduct annual audit of HPI-Nepal Program and assist in projects audit.
- Assist Country Director in preparation/revision of annual HPI Nepal program operation and project budget.
- Prepare and regularly update HPI Nepal Operation Manual and Project Partner Policy Manual.
- Provide substantial support to the development and implementation of new accounting systems. Take initiative to improve accounting process and approaches.
- Update and finalize HPI Nepal Program database.
- Implement role as a team motivator.
- Assist Country Director in other program related activities as assigned.

July 2000- **Heifer Project International, Nepal**

June 2001 *Assistant Finance Officer*

Performed to assist the work similar to those of current position as Finance Officer at HPI/N.

Dec 1999- **Heifer Project International, Nepal**

June 2000 *Financial Bookkeeper*

Performed HPI Nepal's bookkeeping tasks.

Sept 1998- **Hotel Shakti P. Ltd., Nepal**

April 1999 *Manager, Food and Beverage*

Performed overall tasks to ensure smooth operation of F&B department in a tourist standard hotel

Nov. 1997- **Action Aid Nepal, Lazimpat, Nepal**

March 1998 *Assistant in Fundraising*
Worked to translate letters written by donor supported children, forwarded them to the donors, and assisted for fundraising related activities.

ACADEMIC PREPARATION

2000- 2004 **Nepal Commerce Campus, Tribhuvan University, Kathmandu, Nepal**
Received Masters Degree on Business Studies. Thesis paper prepared on "An NGO's Institutional Development Practices- A case study of Heifer".

1996-1999 **Sarashwoti Multiple Campus, Tribhuvan University, Kathmandu, Nepal**
Received Bachelor Degree on Business Management. A field based project work was carried on the topic of "An Employee Incentive Program in Action Aid Nepal, (INGO)" and report submitted to Campus.

1994-1995 **Tribhuvan Multiple Campus, Palpa-Tansen, Nepal**
Received Intermediate in Science Degree (I.Sc.)

TRAINING COURSES CONDUCTED

2001- Present *Personal Leadership Development/Attitude Development/Positive Thinking.*
Conduct/facilitate Leadership Development/Attitude Development/Positive Thinking related training/workshop to different levels of participants once in a two months through Learning Forum Nepal (LF/N), an organization committed to bring positive thoughts in society.

2001- Present *Group formation and Work Strategy Development.*
Facilitate children and Teachers groups meeting and their various interaction programs of EESD Nepal Project sites. Facilitate them to prepare their work strategies, plan of action etc to implement development activities on their community level.

16-18 Sept 2001 *Team Building/Leadership Workshop, Nagarkot*
Co-facilitated a team building/leadership workshop. Discussed motivational tools with HPI/N team.

30-31 March 2002 *Accountability Workshop, Nagarkot, Kathmandu*
Facilitated/conducted two days financial accountability workshop to Heifer Project Nepal's project partners.

TRAINING COURSES ATTENDED

30 Jan'03-20 April 2003 *Partner in Administrative Training at Headquarters (PATH), Little Rock, USA*

Sharing Heifer Nepal's work with various Donors and volunteers, learned communications and administrative work and participate in several task force/steering committee meetings to promote and strengthen Heifer Project International's work.

27-29 March 2002 *Project Partners Meeting, Nagarkot, Kavre*
Learned and shared field level policy related issues and problems. Discussed about the new strategies to work and formulated required new policies applicable to HPI/N and its project partners (NGO)

17-23 Sept. *Asia South Pacific Financial Accountability Meeting, Cantho, Vietnam*

- 2001 Shared financial accountability systems/practices and experiences with other A/SP and Headquarters Office and worked to formulate new financial management related policies and procedures.
- 17-19 March 2001 *Personal Leadership Development Training*, Jawalakhel, Kathmandu
Learned various aspects of personal leadership including positive attitude, confidence development, public speaking and seven habits of highly effective people.
- 11-13 Jan. 2001 *Project Partners Meeting and Cornerstone Model Workshop*, Saurah, Chitwan
Studied and discussed the field level problems that HPI/N Project Partners various fund raising techniques.
- 15-26 Sept. 2000 *Asia South Pacific Support Staff Workshop*, Chengdu, China
Learned how HPI A/SP countries work to alleviate hunger and poverty around the world.
- 16-19 June 2000 *Strategic Planning Workshop*, Nagarkot, Nepal
Learned how to conduct and prepare strategic plan of an organization.
- 25 April - 4 June 1999 *Radio Broadcasting Journalism Training*, Putalisadak, Kathmandu, Nepal
Learned how to produce Radio Feature, general, and entertainment Programs.
Learned various aspects of Radio Journalism.
- April-Nov. 1997 *Hotel Business Management, Hotel Yak & Yeti*, Kathmandu, Nepal
Learned hospitality business management techniques.

LANGUAGES

Proficient in writing, speaking, and translating Nepali, Hindi and English.

COMPUTER SKILLS

DOS, Windows, Word and Excel, MS Access, PowerPoint Presentations, Email and Internet.

OTHER SKILLS

Photocopier, Scanner, Digital Camera and Movie Camera, Driving small vehicles-Car, Motorbikes.

MEMBERSHIP IN PROFESSIONAL ASSOCIATIONS

Education and Empowerment for Sustainable Development, Nepal (A child based local development organization): Executive board member since 2001.

Michael Cappello, MD

Department of Pediatrics
Yale University School of Medicine
New Haven, CT 06520-8081
Laboratory website: <http://info.med.yale.edu/pediat/PedID/Cappello/Labsite/MCappello.html>

Phone: 203-737-4320
Fax: 203-737-5972
email: michael.cappello@yale.edu

Education

Brown University	1984	Bachelor of Arts, Biomedical Ethics
Georgetown University	1988	Doctor of Medicine

Appointments and Positions

1988-91: **Resident**, Department of Internal Medicine, Georgetown University Medical Center
1991-92: **Clinical Fellow**, Infectious Diseases, Dept of Internal Medicine, Yale University
1992-95: **Postdoctoral Fellow**, Infectious Diseases, Dept of Pediatrics, Yale University
1995-96: **Instructor**, Infectious Diseases, Dept of Pediatrics, Yale University
1996-00: **Assistant Professor**, Infectious Diseases, Departments of Pediatrics and Epidemiology & Public Health, Yale University School of Medicine
1998-02: **Attending Physician**, Yale International Adoption Clinic
2000-Pres: **Associate Professor**, Infectious Diseases Division, Departments of Pediatrics and Epidemiology & Public Health, Yale University School of Medicine
2002-Pres: **Director**, Program in International Child Health, Department of Pediatrics, Yale University School of Medicine
Co-Director, Yale International Adoption Clinic

Board Certification

American Board of Internal Medicine (1991)
American Board of Internal Medicine, Infectious Diseases Subspecialty (2002)

Awards and Honors

1988: **Thomas F. Keliher Award**, Georgetown University School of Medicine, Class of 1988, for "demonstrating outstanding humanistic attributes in patient care."
1989: **Intern Award for Excellence**, Department of Internal Medicine, Georgetown University Medical Center
1993: **National Research Service (F32) Award**, NIAID, National Institutes of Health
1993: **Fellow's Basic Research Award**, Society for Pediatric Research
1993: **Young Investigator Award**, American Society of Tropical Medicine and Hygiene
1995: **Physician-Scientist (K11) Award**, NIAID, National Institutes of Health
1996: **Child Health Research Grant**, Charles. H. Hood Foundation
1998: **Hellman Family Fellowship**, Office of the President, Yale University
1999: **Young Investigator Award**, Pediatric Infectious Diseases Society
1999: **New Investigator Award in Molecular Parasitology**, Burroughs Wellcome Fund
2000: **Member (Elected)**, Society for Pediatric Research
2001: **Clinical Research Grant**, March of Dimes Birth Defects Foundation.
2001: **President (2001-03)**, New England Association of Parasitologists
2002: **Research Grant (R01)**, NIAID, National Institutes of Health

Editorial positions

Faculty of 1000, Parasitology Section: 2002-present

Editorial Board, Concise Reviews of Pediatric Infectious Diseases: 2003-Present

Editorial Board, American Journal of Tropical Medicine and Hygiene: 2004-Present

Community and Public Service

Board of Trustees, St. Francis Home for Children, Inc., New Haven, CT: 1999-Present

Founding Director and Vice President of the Board, Health Research Institute, Erbil, Iraqi Kurdistan: 2003-Present

Graduate Student Trainees

Thesis Advisor, Amy Levin, Yale Medical School Class of 2000

Thesis Advisor, Aaron Milstone, Yale Medical School Class of 2000

Thesis Advisor, Angela Shih, Masters in Public Health candidate, Yale School of Epidemiology & Public Health, Class of 2003

Marcin Wisniewski, PhD candidate, Warsaw Agricultural University, Warsaw Poland: Batory Foundation visiting student 2002

Thesis Advisor, Allison Brown, Masters in Public Health candidate, Yale School of Epidemiology & Public Health, Class of 2004

Thesis Advisor, Lisa DeFedele, Masters in Public Health candidate, Yale School of Epidemiology & Public Health, Class of 2005

Thesis Advisor, Eric Poolman, Yale Medical School Class of 2004

Thesis Advisor, Charlotte Wu, Yale Medical School Class of 2006

Thesis advisor, Candace Feldman, Yale Medical School Class of 2007

Post-doctoral Trainees

Kathleen Donnelly, MD: 1995-97

Antonio Del Valle, MD: 1998-2000

Juliusz Mieszczanek, PhD: 2002-04

Richard Bungiro, PhD: 1999-present

Brian Jones, PhD: 2002-present

Melissa Held, MD: 2002-present

Hannah Y. Chen, PhD: 2003-present

Selected Publications

1. Pierce PF, Cappello M, Bernard KW. Subclinical infection with Hepatitis A in Peace Corps volunteers following immune globulin prophylaxis. **Am J Trop Med Hyg** 1990;42:465-94.
2. Cappello M, Bernard KW, Jones B, Francis H, van der Vlugt T. Human immunodeficiency virus infection among Peace Corps volunteers in Zaire: no evidence for unusual modes of transmission. **Arch Intern Med** 1991;151:1328-30.
3. Cappello M, Vlasuk GP, Bergum P, Huang S, Hotez PJ. *Ancylostoma caninum* Anticoagulant Peptide: a hookworm-derived inhibitor of human coagulation factor Xa. **Proc Natl Acad Sci USA** 1995;92:6152-6
4. Cappello M, Li S, Chen X, Li CB, Narasimhan S, Harrison L, Beard CB, Aksoy S. Tsetse Thrombin Inhibitor: Bloodmeal induced expression of an anticoagulant in salivary glands and gut tissue of *Glossina morsitans morsitans*. **Proc Natl Acad Sci USA** 1998;95:14290-5

5. Milstone AM, Harrison LM, Bungiro RD, Kuzmič P, Cappello M. A Broad Spectrum Kunitz-Type Serine Protease Inhibitor Secreted by the Hookworm, *Ancylostoma ceylanicum*. **J Biol Chem** 2000;275:29391-9
6. Bungiro RD, Greene J, Kruglov E, Cappello M. Mitigation of hookworm disease following immunization with soluble extracts of *Ancylostoma ceylanicum*. **J Infect Dis** 2001;183:1380-7
7. Harrison LM, Cordova JL, Cappello M. *Ancylostoma caninum* Anticoagulant Peptide-5: Immunolocalization and *in vitro* neutralization of a major hookworm anti-thrombotic. **Mol Biochem Parasitol** 2001;115:101-7
8. Harrison LM, Nerlinger A, Bungiro RD, Córdova J, Kuzmič P, Cappello M. Molecular characterization of *Ancylostoma* inhibitors of coagulation factor Xa: hookworm anticoagulant activity *in vitro* predicts parasite bloodfeeding *in vivo*. **J Biol Chem** 2002;277:6223-9
9. Del Valle A, Cappello M. *Ascaris lumbricoides*. In: Burg FD, Ingelfinger JR, Polin RA, Gershon A, eds. **Gellis & Kagan's Current Pediatric Therapy 17**. Philadelphia, PA: WB Saunders, 2002
10. Cappello, M. Hookworm Infection. In: Rudolph AM, Rudolph CD, Siegel NJ, Lister G, Hostetter MK, Eds. **Rudolph's Pediatrics**. Stamford, CT: Appleton & Lange, 2002
11. Cappello M. Pediatric Travel Medicine. In: Rudolph AM, Rudolph CD, Siegel NJ, Lister G, Hostetter MK, Eds. **Rudolph's Pediatrics**. Stamford, CT: Appleton & Lange, 2002
12. Cappello M. Antiparasitic Drug Therapy. In: Rudolph AM, Rudolph CD, Siegel NJ, Lister G, Hostetter MK, Eds. **Rudolph's Pediatrics**. Stamford, CT: Appleton & Lange, 2002
13. Cappello M, Hotez PJ. Intestinal Nematodes. In: Long SS, Pickering LK, Prober CG, Eds. **Principles and Practice of Pediatric Infectious Diseases**. Second Edition. New York: Churchill Livingstone 2002
14. Bungiro RD, Anderson BR, Cappello M. Oral transfer of adult *Ancylostoma ceylanicum* hookworms into permissive and non-permissive hosts. **Infect Immun** 2003;71:1880-8
15. Del Valle A, Jones BF, Harrison LM, Chadderdon RC, Cappello M. Isolation and molecular cloning of a secreted hookworm platelet inhibitor from adult *Ancylostoma caninum*. **Mol Biochem Parasitol** 2003;129:167-77
16. Cappello M, Harrison LM, Bungiro RD, Chadderdon CR, Del Valle A, Milstone AM, Chu D, Mieszczanek J, Nerlinger A, Kuzmic P. Molecular pathogenesis of hookworm anemia: prospects for a disease based vaccine. **J Parasitol** 2003;89:S158-64
17. Bungiro RD, Cappello M. Helminth Infections. In: Johnson LR, ed. **Encyclopedia of Gastroenterology**. San Diego, Ca: Academic Press, 2003
18. Mieszczanek J, Harrison LM, Vlasuk GP, Cappello M. Anticoagulant peptides from *Ancylostoma caninum* are immunologically distinct and localize to separate structures within the adult hookworm. **Mol Biochem Parasitol** 2004;133:319-23
19. Chu D, Ibanez M, Campodonico E, Bungiro RD, Harrison LM, Mieszczanek J, Jones BF, Kuzmic P, Cappello M. Molecular characterization of *Ancylostoma ceylanicum* Kunitz-type serine protease inhibitor: Evidence for a role in hookworm associated growth delay. **Infect Immun** 2004 (in press)
20. Bungiro RD, Solis C, Harrison LM, Cappello M. Purification, molecular cloning and characterization of *Ancylostoma ceylanicum* Excretory/Secretory Protein 2 (AceES-2), an immunoreactive protein produced by adult hookworms. **Infect Immun** 2004 (in press)
21. Cappello M. Mechanisms of Disease: Hookworm. **Drug Discovery Today**. (invited review-in preparation)

Suhrid Prasad Chapagain

Lotus opportunities, PO Box: 3459, Kathmandu, Nepal

Tel no: 5530313,9841225559 suhrid.chapagain@lotusopportunities.com.np

Experience

2003- to date

Lotus Opportunities , Kathmandu , Nepal

Assistant Manager- Network initiatives

Exploring and establishing different effective network nationally and internationally

Framing of concrete plans and strategies for networking

Working on sustainable enterprise development and creation

2000-2001

Morang Auto Works, Kathmandu, Nepal

Sales Engineer

Coordinating with all Sales engineer

Selling of Capital goods for industrial buyers

2000-2001

Himalaya College of Engineering Kathmandu, Nepal

Teaching Assistant

Taken lecture classes for First year engineering students

Taken Engineering graphics and Thermodynamics laboratory classes.

2000-2001

Kantipur Publications Pvt. Ltd. ,Kathmandu , Nepal

Free Lancer Journalist

Run a page for Saptahik Weekly and contribute articles to Sarvottam Monthly, the sister concern for Kantipur Publication

The articles were related to Information Technology

Education

- 2001–2003 Canara Bank School Of Management Studies Bangalore
 University, Bangalore, India
 M.B.A., Entrepreneurship and Human Resource Management
 Awarded First Class
- 1996-2000 Motilal Nehru Regional Engineering College, Allahabad University,
 Allahabad, India
 B.E. Mechanical Engineering
 Awarded Distinction

Projects undertaken

- Dissertation** “Promotion of Growth Oriented Enterprises by Non Government
 Organization –A case study of Rural development and Self
 Employment Institute (RUDSETI)”, 2003
- Summer Training** “Possibility of Marketing Linkage between Micro enterprises and
 Industrial buyers – a case study of Micro enterprise Development
 Program, United Nation Development Program.”, 2002
- Event Moderated** Third Enterprise Development Network Forum Meeting ", Jan
 2004
- Training attended** Subsector Analysis and BDS market Assessment, Feb 2004, BDS-
 MAPS
- Training Imparted** "Business Negotiation , Persuasive selling and closing Deals", to
 sales force of Chaudhary Group, Feb 2004
- Workshop attended** "Building Business Network in rural areas ", November 2003
 Institutional development and Organisation strengthening , November
 2003
 "Second Enterprise Development Network Forum Meeting",
 November 2003

RESUME

Date: 16th November, 2003

Adminitrator, Statistics, Bio-statistics, Clinical trail Analysis, Medical Record Administrator, Community Research, ICD-10 Coding and Statistical Quality Control etc.

Name : Dharani dhar Baral

Permanent Address : Municipality : Itahari
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Education : 1990 – 1992, M. Sc in Statistics
: 1987 – 1990, Three Years B. Sc.
: 1986 – 1985, Higher Secondary
: 1974 - 1984, School Leaving Certificate,
: 2001-2004, Final year Ph. D. Scholar, Department of
Statistics, Tribhuvan University, under Prof. Dr. D. B.
Chhetri

Area in Interest : Statistics, Bio-statistics, Clinical trail analysis, Hospital
Administrator, General Administration, Community
Research, ICD-10 Coding and Statistical Quality Control. ,
Public Administration, Hospital Indicator developer and
Planner

Computer Skills : MS Office 2000, SPSS PC+, Epi-Info – 6, Minitab, Stats,
Dbase programming, Basic programming, FORTRAN
Programming, Fox-pro etc.

Employment:

Employee : B. P. Koirala Institute of Health Sciences Dharan,
Nepal
Date of appointment : 17th September, 1994
Current Professional Position : Senior Bio-statistician

Training:

1. "Basic Medical Terminology and medical Record Keeping System" 6th June 1995 to 5th September 1995, BPKIHS, Dharan.
2. "ICD – 10 (International Statistical Classification of Diseases, 10th Edition) Training for trainers course" 21st April – 2nd May 1997, MOPH, Bangkok, Thailand.
3. "A short course on Integrated Health Science and Medical Terminology for Non-Medical Staff, BPKIHS & WHO" 4th Nov. – 27 Nov. 1996.
4. "Training on Maternal Death Audit BPKIHS & WHO" 21st Feb. 1997.

Publications:

1. Work Study of OPD Registration Counter at B.P. Koirala Institute of Health Sciences, Dr. N. Kumar, D.D. Baral, Hospital Administration, Published in official Journal of the India Hospital Association, Vol XXXIV No. 1 & 2 March / June 1997 and Souvenir, 3rd Anniversary 9th Sept. 1996, BPKIHS.
2. Review of BPKIHS Hospital Services: Dr. N. Kumar, D.D. Baral, S. Pokhrel, S. Tamrakar, Souvenir, 3rd Anniversary 9th Sept. 1996, BPKIHS.
3. Bed Occupancy rate in BPKIHS, 3rd scientific paper presentation 4th – 5th Sept. 1996.
4. Anti-microbial Susceptibility pattern of Aerobic Bacterial Isolates in Burn Patients at BPKIHS, Nepal. By Shyamal Bhattacharya, B. K. Jain, M. Dev, D.D. Baral & S. Parajuli, BPKIHS, Nepal. XXIII National Congress of IAMM.
5. A profile of malnutrition cases at BPKIHS, Journal of the Nepal Medical Association, Vol. 34 No. 120 Oct-Dec. 1996, ISSN NPOO 28-2715. By- R. Singh, G. Sarkar, M. C. Shekhar, DD Baral.
6. Smoking and Smokers in Sunsari District, Journal of the Nepal Medical Association, Vol. 38 No. 130 April-June. 1999, ISSN NPOO 28-2715. By Jha N, Upadhaya MP, Yadav BK, Baral DD, Ghartichhetri PS, Poudel IS.

Resource Person:

1. Epidemiological surveillance system training programme by WHO/ MOH/ BPKIHS.
 - a. 6th July to 10th July 1997 BPKIHS.
 - b. 11th Jan. to 15th Jan 1998, BPKIHS.
2. Training course on basic statistics for SCF (UK) senior staff 23rd – 28th Feb. 1997, Birtamode, Nepal.
3. Dhankutta district quality health assurance workshop, 7th to 10th April 2000, BPKIHS/WHO
4. Consultant WHO in ICD-10 Coding for Nepal.

Co-ordinator:

1. "Basic Medical Record keeping system for all Nepal Medical Record Officer / Assistant", 17th – 23rd Nov. 1998, WHO/MOH/BPKIHS
2. Hospital orientation programme for all staff of BPKIHS from March 2000 to September 2001.

Experience:

1. Sunsari Health Interview Survey, as an Investigator – 1995 (49535 data).
2. Sunsari Health Examination Survey, as an Investigator – 1996 (23965 data)
3. Work study of OPD registration counter at BPKIHS, as a statistician – 1996 (Observational)
4. A study of queuing system of OPD patient of BPKIHS, as a statistician – 1995 (Observational)
5. Follow up study of discharged patient of BPKIHS, as statistician – 1995 (1000 data)
6. School health survey, as a statistician
 - a. S.O.S. Children's Village, Itahari – 6
 - b. L. P. School, Itahari – 5
 - c. Shree Janata M. P. School, Itahari – 1
7. Knowledge, attitude and practice of mother about home management of acute diarrhoea in Sunsari district, 1998, as co-ordinator (5000 data)
8. Sunsari district Tuberculosis surveillance 1999, as a co-investigator (5054 data)
9. Well knowledge in computer software:

Lead Discussant:

1. Workshop on "Developments of instruments for Epidemiological Surveillance", 16th – 18th December, 1997 BPKIHS & WHO.]

Presentation:

1. A study of prevalence of PEM in Dharan in the age group of 6 – 60 months, sixth annual celebrations, scientific programme, 6 –7 Sept. 1999 (First Prize).
2. Scientific session (poster presentation) to mark the fourth anniversary of BPKIHS, "co-authored papers entitled
 - (a) Smoking & smokers in Sunsari district.
 - (b) Alcohol consumption in Sunsari district.

Extra activities:

The man of match of Volley Ball match, 6th anniversary, BPKIHS, 1999
The man of the series of Volley Ball matches and Champion team, 7th anniversary, BPKIHS, 2000

Curriculum Vitae: Gary R. Gleason, Ph.D.



Professional Background: International consultant, UN field staff member, occasional university teacher)

International Experience: 25 + years in 30+ countries for UN, Bilateral agencies, International NGOs, the Private sector and University groups.

Work Areas (International):

Planning and Development of International Programs and Projects

- Primary Health Care/ Public Nutrition,
- Effective Public-Private Alliances
- International Cooperation on Social Development Projects
- Prevention and Control of HIV/AIDS,
- Integrated Early Childhood Development and Care
- Integrated Community Based Social Development

Strategic Policy Advocacy and Communication

- Public Nutrition/ Micronutrients
- Prevention and Control of HIV/AIDS

Design of Communication Support Strategies and International Web Sites

- Primary Health Care/ Public Nutrition/Food Fortification
- Prevention and Control of HIV/AIDS
- Dynamic Project Monitoring for Intervention Adjustment
- Specialized Project Documentation and Experience Exchange
- Research Communication Planning and Effective Dissemination
- Programme and Project Communication Support **Work Areas (National /USA)**
- NGO development
- Teaching/Lecturing
- International cooperation for social development
- Communication support : a broad based view
- UN careers and consulting: expectations and strategies.
- Specific topics in public health and nutrition.
- Research communication planning to facilitate and promote evidence-based decision making
- Museum Exhibit Development and Design: "Eat the Pyramid"

Selected Assignments (1990-2004)

For the International Nutrition Foundation

- Coordinate international experts' meeting on Consensus on Key Technical Issues on Iron Deficiency Anemia and wrote/edited the global report, (1998-1999).
- As Project Director, developed, obtain funding for (\$.4 million) and direct the Iron Deficiency Project Advisory Service (INF, Boston, 2000-2004).
- Ongoing assignment and budget to develop and expand the INF (Boston 2002-2004).

- Project Leader for organizing an International Working Group on Strategies to Eliminate Iron deficiency in Children Less than Two Years of Age (Boston/Ottawa, 2002-2003).
- Project Leader organizing and presenting annual global reports on international activities related to iron, zinc and folic acid for the UN Standing Committee on Nutrition, Oslo, Nairobi, Washington, Berlin, Chennai, New York. (INF/United Nations University, 1999-2004)
- Represent the United Nations University at the United Nations General Assembly Special Session on Children on global anemia prevention and control (New York, May 2002)
- Design and lead a training program on anemia prevention and control for specialists from the four countries in Central Asian Republics and Kazakhstan (CARK), (Kyzylorda, Kazahstan, 1998).

For the Asian Development Bank (projects in China and Central Asia)

- Set up and facilitate national nutrition policy development consultation with international facilitation. (Beijing, November 2003)
- Ongoing adviser on national nutrition policy development (Boston and Beijing, 2003-2004)
- Develop, facilitate and advise a five country workshop developing communication strategies to support fortification of salt and wheat flour in Central Asian countries. (Bishkek, Kyrgyz Republic, February 2002).
- Assessment, project design, communication support and monitoring for a five country project (US\$6 million) to fortify wheat flour and salt in Central Asia. (Asian Development Bank, Mongolia, Azerbaijan, Tajikistan, Kazakhstan Uzbekistan and the Kyrgyz Republic for the Asian Development Bank (Central Asia, 2000-2004).

For UNICEF China

- Conduct mid-term review of the Planning, Advocacy, Communication, Knowledge programme of UNICEF China (Beijing, September 2002)
- Develop proposal for improving complementary feeding in rural China (US\$900,000 to Micronutrient Initiative) (Beijing, February 2003).
- Assist with SARS prevention communication strategy for rural areas (Beijing, April 2003).
- Review provincial HIV/AIDS and health promotion strategies in China with Ministry of Health and UNICEF (Beijing, June 2002).
- Develop and facilitate workshop on "Inserting HIV/AIDS, Health and Nutrition Promotion into Popular Media," UNICEF and Ministry of Health. Peoples Republic of China (June 2002).

- Design program module for and train for National Working Committee on Children and Women, UNICEF and People's Republic of China, (Nanjing, September 2002).
- Organizer and facilitator of workshop for Chinese national and regional media and entertainment organizations on media support for China's 900 Million Farmer Health Promotion Project (UNICEF China, February 2002).
- Develop and make presentations on reducing HIV/AIDS discrimination in China for Chinese Academy of Preventive Medicine (Wuhan, September 2002)
- Assist State Planning Commission of China to develop a Country Investment Plan for Food Fortification (Beijing, October 2002)
- Develop with UNICEF and Government of the People's Republic of China a new national health promotion strategy and use of the internet to strengthen health and nutrition programs. (2000-2002)
- Provide planning assistance to the Chief of the UNICEF Health and Nutrition Section (December 2002)

For UNICEF Regional Office for the Middle East and North Africa

- Develop regional communication strategy for the prevention and control of HIV/AIDS (Amman 2003)
- Develop national communication strategy Prevention and Control of HIV/AIDS (\$12 million project) for Djibouti (Djibouti, 2003)
- Advise on national HIV/AIDS strategy and communication support (Sana'a, Yemen, 2003)

For UNICEF Regional Office for East Asia and Pacific

- Facilitate workshop on defining and improving program management for UNICEF Senior Program Officers in Country Offices in the East Asia and Pacific Region. (UNICEF, Bangkok, March 2002)

For UNICEF in Central Asia

- Assess oblast implementation of oblast Anemia Prevention and Control Programs in Kazakhstan and the Kyrgyz Republic, developed procedures to address problems identified and recommended improvements, (1998).
- Develop investigation protocols for review of Anemia Prevention and Control projects (Phase II) for UNICEF
- Review and advised on area program strategy for CARK countries and UNICEF Area Office, (1998).
- Lead assessment missions and develop sectoral and country programmes for five countries (\$14 million) in Central Asia (Central Asia, 1992-1995)

For UNICEF Nepal

- Lead team to evaluate and recommend improvements for the Nepal Multiple Indicator Surveillance System monitoring the National Plan of Action for Children and Women, (1999).

For UNICEF Thailand and Headquarters

- Led team and served as principal investigator for an Evaluation of a Five-Year Country Program for Thailand (including national programs on child spacing, HIV AIDS

and a nutrition program stressing growth monitoring) for Evaluation and Research Office, (1994)

For UNICEF Regional Office for Central and Eastern Europe, Former Soviet Union and Baltic States (and the CEE/CIS Section in UNICEF Headquarters)

- Coordinate UNICEF/WHO regional consultation on preventing iron deficiency in the CEE/CIS/BS Region and write consultation report, (1999).
- Propose fundraising strategies on universal education targeting National Committees in Europe (1998).
- Lead regional team developing guidelines for mid-term reviews of country programs in the CEE/CIS/BS Region, (1998).
- Develop and present "A Model to Prevention and Control Anemia in Central Asia," for the International Pediatrics Association Conference (IPA), Baku, Azerbaijan, (1998).
- Assist in drafting initial UNICEF Strategy Paper for CEE/CIS/BS region, (1993).
- Developed and facilitated the International Symposium, Social Protection during Economic Restructuring Child Health and Education (China), (1993).
- Co-led ARI training workshop in Almaty, Kazakhstan (w/ Carl Taylor, Nevin Scrimshaw), (1993).
- Designed "Emergency Winter Program to Control of ARI" and conducted related training for Kyrgyz Republic, (1993).
- Co-led national assessment team on the situation of children and women in Tajikistan, and co-authored report, (1993).
- Facilitated international donors' meeting on vaccine supplies and immunization policy (Paris), (1993).
- Facilitated workshop for the 15th Anniversary of Alma Ata Declaration on Primary Health Care, (1993).
- Designed project and led technical missions for emergency health a project for the Russian Federation, Belarus and Ukraine (Can. \$7.5 million) (first medicines supplied in 71 days), (1993).
- Help prepare protocol for and co-authored multi-agency report of a mission that developed a situation analysis on children and women in the Russian Federation, calling for \$420 million in emergency, medium and longer term social sector assistance, (1992) (Used by UNICEF, World Bank, WHO, USAID, GTZ, EU and others organizations and the Russian Federation)
- Participated in and co-authored report of the UNICEF/WHO Collaborative Mission to Assess Urgent Health Needs of the Coordinated development of program recommendations for Kazakhstan, Kyrgyz Republic, Turkmenistan, Tajikistan and Uzbekistan (Proposals for US\$26 for five countries approved by UNICEF Executive Board), (1992-1993).
- Recruited and managed international team of 13 professionals to do situation analyses on children and women in the Central Asian Republic and Kazakhstan and co-authored reports, (Central Asia, 1992).

- Co-led team and developed, negotiated and help implement a Special National Project to Control of Pneumonia in Children in Kazakhstan. (Planned and initiated in less than 45 days), (1992).
- Conducted rapid assessment and developed, Emergency Country for Romania (with UNICEF team), (1990-1991).
- Organized the review and development of medium term strategy for the CEE/NIS countries for headquarters CEE/CIS Section, (1991-1993).
- Represented UNICEF at US State Department Romania Strategy Group, (1990-1992).
- Researched and wrote, "Women's Issues in Social Development in the CIS" (for Fourth Global Conference on Women regional preparatory meeting), for headquarters Program Division, (1993).
- Consultancy to develop systems for technical information and research exchange. (Malaysian Palm Oil Promotion Board New Delhi, March 2003).
- Consultant to develop and present the IDPAS Model for Technical Information Networking to Support Nutrition Interventions in Africa (Micronutrient Initiative, Nairobi, May 2002)

Assignments as a UN staff:

- 1995-97 Senior program officer/deputy area representative Central Asian Republics and Kazakhstan (UNICEF, Pakistan).
- 1996-97 Officer-in-charge Kazakhstan Country Office, (UNICEF, Almaty).
- 1988-90 Officer-in-charge Turkey Country Office, (UNICEF, Ankara).
- 1985-90 Senior program officer, Turkey Country Office, (UNICEF Ankara).
- 1981-86 Communication project officer, Nigeria Country Office, (UNICEF, Lagos).
- 1976-79 Communication/information specialist, (FAO, Accra and Navrongo, Ghana)

Personal Information:

Name: Gary Richard Gleason **Residence:** Wayland, MA, USA: **Date of Birth:** May 20, 1946 **Citizenship:** USA
Education: Ph.D., Mass Communication and International Social Development, (University of Iowa, Iowa City, IA, 1981), M.A., Mass Communication, (University of Missouri, Columbia, MO, 1973). B.A., Journalism, (Saint Bonaventure University, Olean, NY, 1968).

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References:

Nevin Scrimshaw, Ph.D., M.D., M.P.H. , Professor Emeritus, Department of Nutrition, Massachusetts Institute of Technology, President, International Nutrition Foundation, Sandwich Notch Road, Campton, NH; Tel. (603) 726-4200 E-mail: nevin@cyberportal.net
Ray Yip, M.D., M.P.H., Head of US CDC Mission in China and Director of the US Center For Disease Control and Development (CDC) Global AIDS Project for AIDS (GAP) Project in China.,
Irvin Rosenberg, Ph.D., M.D., Dean, Friedman School of Nutrition Science and Policy at Tufts University School of Nutrition Science and Policy, Boston, MA, E-mail: irvin.rosentberg@tufts.edu
Alan Brody, Ph.D., UNICEF Representative, Swaziland Country Office, E-mail: abrody@unicef.org
Susl Kessler, M.D., International Consultant, 80 Central Park West NYC, NY 10023. E-mail: Sukessler@aol.com
Marc Kaufman, President, Desktop Publishing and Design, Newton, MA, Tel. (617) 482-2122, E-mail digitaldesign@attbi.com
David Parker, Deputy Director, UNICEF Innocenti Center for Children's Research, Florence Italy E-mail: dparker@unicef.org

Selected Publications:

- "Key Information and Current Outcomes: The Working Group on Strategies to Eliminate Iron Deficiency in Children Less than Two Years of Age." INACG Symposium Presentation. Marrakech, Morocco, 2003.
- "Iron Deficiency Anemia Finally Reaches the Global Stage of Public Health." Nutrition in Clinical Care 5(5): 217-219, 2002.
- Rapid Assessment Methodologies for Planning and Evaluation of Programs of Primary Health Care, Scrimshaw, Nevin and Gleason, Gary, (eds.), International Nutrition Foundation, 1992.
- "Report of A WHO/UNICEF Regional Consultation on Iron Deficiency", 1999. (Consultation reporter and report editor for the UNICEF Regional Office for Central and Eastern Europe, the Commonwealth of Independent States and the Baltic States).
- "Preventing Iron Deficiency in Women and Children: Technical Consensus on Key Issues," 1999, INF and Micronutrient Initiative, (consultation reporter and report editor with Nevin Scrimshaw for the United Nations University at the request of the United Nations Agency Coordination Committee, Sub Committee on Nutrition,)
- "Improving Essential National Research for Children in UNICEF," February 1991, (co-author with Dr. Lincoln Chen, Dr. David Bell, Dr. John Evans for the Executive Director of UNICEF)
- "Organizing Long Term Social Mobilization for Sustained Development," a case study on Turkey's immunization program for a workshop at Johns Hopkins University, Center for Communication Programs, July 1987 (for Johns Hopkins University).
- "Evaluation of the National Multiple Indicator Surveillance Program", June 1999, (principal investigator and report author for UNICEF Nepal Country Office).
- "The Situation of Children and Women in Tajikistan," October 1992 (co-author Dr. Y. Y. Nwe and UNICEF assessment team);
- "Integrated Project for Control of Iron Deficiency Anemia in the Central Asian Republics and Kazakhstan," May, 1997;

CURRICULUM VITAE

Gyanendra Nath GONGAL

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Education

M. Sc., Tropical Veterinary Epidemiology, 1996
Free University of Berlin, Germany

Doctor of Veterinary Medicine (DVM), 1988
Moscow Vet. Academy, Russian Federation

PERSONAL

Date of birth : [REDACTED]
Birth place : [REDACTED]
Gender : Male
Family status : Married Children: Two
Nationality : Nepali
Language proficiency: Nepali, English, Russian, German, Hindi
Life Member of the Nepal Vet. Assoc./ Nepal Veterinary Council (Regd. No. 066)
Member of the World Veterinary Association
President of the Trust for Zoonoses and Consumer Awareness (TRUZCA NEPAL)

Employment Record

June 2002 to present
Chief Veterinary Epidemiologist, Central Epidemiology Unit
Directorate of Animal Health, Dept. of Livestock Services

July 1997 to May 2002
Senior Veterinary Officer (Chief)
Dept. of Livestock Services, Ministry of Agri & Cooperatives
National FMD Control Section, Budhanilkantha, Kathmandu

April 1991 to July 1997
Zoonoses Control Officer
Dept. of Health Services, Ministry of Health
Epidemiology and Disease Control Div., Kathmandu

September 1988 to April 1991
Veterinary Officer (Chief)
RD Office of Livestock Services, Pokhara, District Livestock Service Office, Nawalparasi and
Sindhuli

Experience

Temporary Advisor to Regional Director of South-East Asian Regional Office of the World Health Organization for formulating regional strategies on rabies elimination.

Principle Investigator - Survey of street-vended and weaning foods in Kathmandu Valley, 1993.

Principle Investigator - Study of socio-cultural influences on breast-feeding, weaning and child care practices in Lumbini zone, 1994.

Principle Investigator - Epidemiological study of animal rabies in Kassel district of Nordhessen during the period of 1981-1995.

Training

1. Training Workshop on Health System Research, December 1-6, 1991, Nepal Health Research Council, Ministry of Health, Kathmandu, Nepal.
2. Advanced Course on Tropical Epidemiology, March 4, 1994 – April 15, 1994, Mahidol University, Bangkok, Thailand.
3. National WTO Training Workshop, August 26 – 28, 2003, Kathmandu, Nepal.

Participation in International Conference, Workshop, Seminars

1. Inter-Regional Workshop on Anthrax, March 9-11, 1997, Kathmandu, Nepal.
2. Fourth World Congress on Food-borne Infections and Intoxications, June 7-12, 1998, Berlin, Germany.
3. XV International Congress on Tropical Medicine and the Malaria, August 20-25, 2000, Cartagena, Colombia.
4. Fourth International Symposium on Rabies in Asia, March 5- 9, 2001, Hanoi, Vietnam.
5. Twenty-second OIE Conference of the Regional Commission for Asia, the Far-East and Oceania, November 27-30, 2001, Kathmandu, Nepal.
6. Fourth National conference of APCRI (Association for Prevention and Control of Rabies in India), 6-7 July, 2002, Jaipur, India.
7. Twenty-seventh World Veterinary Congress, 25-29 September, 2002, Tunis (Tunisia).
8. Fifth National conference of APCRI (Association for Prevention and Control of Rabies in India), 5-6 July, 2003, Bhuwaneswor, India.

Publication

1. Gongal GN, Bista MB, Rai JN and Vaidya TN (1993). Epidemiology of Rabies in Kathmandu Valley. *Journal of Nep. Med. Assoc.* 1993; Vol. 31, No. 105, pp:69 - 77.
2. Gongal GN (1993). Food-borne Parasitic Zoonoses in Nepal. *Veterinary Review*, 1993, 8(2). Pakhribas Agri. Centre, Nepal. pp:57 - 59.
3. Gongal GN, Shrestha BL, Shah DJ, Karmacharya S, Joshi R and Chitrakar R (1993). Street-vended and Weaning Foods in Kathmandu Valley. Study Report.

4. Gongal GN, Upadhyaya S, Pyakurel KN, Khadka RR and Pandey KR (1994). Socio-cultural Influences on Breast-feeding, Weaning and Child Care Practices in Lumbini zone(1994). Study Report.
5. Gongal GN, Karki BB and Pandey KR (1997). Human Anthrax Situation in Nepal. Proceedings of Inter-Regional Workshop on Anthrax, March 9-11, 1997, Kathmandu, Nepal.
6. Gongal GN, Rajbhandari TP and Shrestha PM (1997). Laboratory Diagnosed Human Brucellosis Cases in Nepal. Journal of Nep. Med. Assoc. 1997; Vol. 36, No. 123, pp:306 - 310.
7. Gongal GN and Shrestha MD (1998). The Epidemiology of Human Rabies Post-Exposure Prophylaxis in Kathmandu Valley. Journal of Nep. Med. Assoc. 1998; Vol. 37, No. 126, pp:482 - 489.
8. Gongal GN (1998). The Epidemiology of Reported Human Rabies Cases in Nepal, 1992-1996– Journal of the Inst. of Med., Vol. 20, No. 3&4, Jul-Sep/Oct-Dec 1998. Kathmandu, pp:210-217.
9. Gongal GN and et al (1998). Street food business in Kathmandu Valley. Proceedings of 4th World Congress on Foodborne Infections and Intoxications, 7-12 June 1998, Berlin, Vol. II, pp:1092.
10. Gongal GN (1999). Zoonoses - Recognition, Prevention and Control, Agri. Communication Div., Ministry of Agri., Kathmandu, Nepal.
11. Gongal GN and Rai JN (2000). Status of Veterinary Public Health and Zoonoses. Veterinary Services in Nepal. Annual Technical Report 2055-56. Animal Health Division, Department of Livestock Services, Ministry of Agri., Kathmandu, Nepal. pp:53-61.
12. Gongal GN and Rai JN (2001). Human rabies situation in Nepal. Paper presented in Fourth International Symposium on Rabies in Asia. March 3-9, 2001, Hanoi, Vietnam.
13. Gongal GN (2001). The Impact of Environment Change on Zoonotic Disease Ecology. Agriculture and Environment. Communication Issue"2001 - World Wide Web of Life". Ministry of Agriculture and Cooperatives, Kathmandu, Nepal. pp:58-63.
14. Gongal GN (2002). Dog Bite Incidence Among Children in Kathmandu Valley. Souvenir of SAARC Pediatric Conference. Nepal Paediatric Society. Kathmandu, Nepal.
15. Gongal GN (2002). Laboratory-based Diagnosis - An Indicator of Excellent Clinical Practices and Disease Reporting System. Annual Technical Report (2001/2002). Central Veterinary Laboratory, Kathmandu, Nepal.pp.:41-46.
16. Gongal GN (2002). Human Rabies Situation in Nepal. APCRI Journal. Official Journal of the Association for Prevention and Control of Rabies in India. Vol. IV, Issues 1 & 2, Jan.-Jul.2002. pp.: 13-15.
17. Gongal GN (2003). All About Rabies. Trust for Zoonoses and Consumer Awareness (TRUZCA NEPAL), Kathmandu, Nepal.

Recognition/Awards

Prince Deependra Youth Award for Science and Technology (1999), Royal Nepal Academy for Science and Technology (RONAST), Kathmandu, Nepal.

Honorary member of the Association for Prevention and Control of Rabies in India (APCRI).

BIOGRAPHICAL SKETCH

NAME		POSITION TITLE	
John L. Griffith, PhD		Associate Professor of Medicine	
EDUCATION/TRAINING			
INSTITUTION AND LOCATION	DEGREE (if applicable)	YEAR(s)	FIELD OF STUDY
Claremont Men's College, Claremont, CA	BA	1976	Mathematics
Tufts University, Medford, MA	MS	1982	Mathematics
Boston University, Boston, MA	PhD	1994	Statistics

A. Positions and Honors.

1980-1982	Lecturer, Department of Mathematics, Tufts University, Medford, MA
1983-1985	Statistical Consultant, Cardiac Outcome Studies, U.C.L.A. Department of Medicine, Los Angeles, CA
1984	Statistical Consultant, Quality Control Studies, Millipore Corporation, Bedford, MA
1984-1985	Statistical Consultant, Clinical Trials Evaluation, Lever Research, NJ
1982-1990	Lecturer, Department of Mathematics, Boston University, Boston, MA
1988-	Senior Statistician, Center for Cardiovascular Health Services Research, New England Medical Center
1993-1999	Assistant Professor of Medicine, Tufts University, Boston, MA
1994-	Director, Biostatistics Research Center, Tufts-New England Medical Center, Boston, MA
1999-	Associate Professor of Medicine, Tufts University School of Medicine, Boston, MA
2000-	Associate Professor of Family Medicine and Community Health, Tufts University School of Medicine

B. Selected peer-reviewed publications (in chronological order.)

- Selker HP, Griffith JL, D'Agostino RB. A time-insensitive predictive instrument for acute mortality due to congestive heart failure: Development, testing, and use for comparing hospitals. A multicenter study. *Med Care*, 32:1040-1052, 1994.
- Udelson JE, Coleman PS, Metherall J, Pandian NG, Gomez AR, Griffith JL, Shea NL, Oates E, Konstam MA. Predicting recovery of severe regional ventricular dysfunction: Comparison of resting scintigraphy with thallium 201 and technetium 99-sestamibi. *Circulation*, 89:2552-2561, 1994.
- Maynard C, Selker HP, Beshansky JR, Griffith JL, Schmid CH, Califf RM, D'Agostino RB, Laks MM, Lee KL, Wagner GS, Weaver WD. The exclusion of women from clinical trials of thrombolytic therapy: Implications for developing the thrombolytic predictive instrument. *Med Decis Making*, 15:38-43, 1995.
- Selker, HP, Griffith JL, Patil S, Long WL, D'Agostino RB. A comparison of the performance of mathematical predictive methods for medical diagnosis: Identifying acute cardiac ischemia among emergency department patients. *J Investig Med*, 43:468-476, 1995.
- Snydman DR, Werner BG, Meissner HC, Cheeseman SH, Schwab J, Bednarek F, Kennedy JL, Herschel M, Magno A, Levin MJ, Valaes T, Berkman E, McIver J, Leszczynski J, Griffith JL, Grady GF. Use of cytomegalovirus immune globulin in multiply transfused premature neonates. *Pediatr Infect Dis J*, 14:34-40, 1995.
- Falagas ME, Snydman DR, Ruthazer R, Griffith J, and the Boston Center for Liver Transplantation CMVIG Study Group. Primary cytomegalovirus infection in liver transplantation: Outcome differences between donor and transfusion transmitted infection. *Clinical Infectious Diseases*, 23:468-74, 1996.
- Katz DA, Griffith JL, Beshansky JR, Selker HP. The use of empiric clinical data in the evaluation of practice guidelines for unstable angina. *JAMA*, 276:1568-1574, 1996.
- Maynard C, Beshansky JR, Griffith JL, Selker HP. The influence of sex on the use of cardiac procedures in patients presenting to the emergency department: A prospective multicenter study. *Circulation*, 94:93-98, 1996.
- Falagas ME, Snydman DR, Griffith J, Ruthazer R, Werner BG, and the Boston Center for Liver Transplantation CMVIG Study Group. The impact of cytomegalovirus on the first-year mortality among orthotopic liver transplant recipients. *Ann Intern Med*, 126:275-279, 1997.
- Hayes DL, Wang PJ, Reynolds DW, Estes M, Griffith JL, Steffens RA, Carol GL, Findlay GK, Johnson CM. Pacemaker interference from hand-held wireless telephones: Results of a multi-center study. *N Engl J Med*, 336:1473-73, 1997.
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C. Research Support.

John L. Griffith

ON GOING / COMPLETED

ON GOING

P50 HL63494 (Mendelsohn/Selker Core C PI) 2/1/00-1/31/05

NIH/NHLBI

Specialized Center of Research in Ischemia: Core C Statistical Core

Core C: Statistical Core and Project #2: Selective Estrogen Receptor Modulation: Effects in Post-Menopausal Women Following Myocardial Infarction.

RO1 HS10746 (Sege) 10/1/01-9/30/04

Aptima / NIH

Child Abuse Reporting Experience Study

Planning, oversight of data collection, and analysis of the data, and presentation of the data in papers and at meetings. Provide technical oversight for data analysis, which will be conducted at the AAP PROS office in Chicago.

2M01 RR00054-40A1 (Selker) 12/1/91-2/28/06

NIH/NCRR

General Clinical Research Center

To provide the clinical research infrastructure for medical scientists who conduct patient-oriented research. The GCRC serves as the core clinical research facility for clinical investigators at New England Medical Center and Tufts University School of Medicine.

R01 (Folstein/Griffith) 12/1/01-11/30/05

NIH/NIA

Micronutrients, stroke and cognition in aging

The project explores that association of micronutrients and cognitive impairment in the elderly. This program project will also investigate the mediating factors, such as small vessel cerebrovascular disease, by which micronutrient deficiency leads to cognitive impairment.

Pfizer (Kent) 9/1/01-8/31/04

Multivariable Models to Identify Stroke

To develop statistical models that predict both the risks and the benefits of TT in patients with AIS. Using these multivariate models, we will identify a subgroup of patients with a favorable risk-benefit profile who might benefit from TT for AIS even when treated more than 3 hours after the onset of stroke symptoms. Plan a pilot study to evaluate the feasibility of "real-time assisted multi-dimensional patient stratification" to select AIS patients who may benefit from TT when treated more than 3 hours from symptom-onset.

ES-02-009 (Tucker) 10/1/03-9/30/08

Center for Research on Nutrition and Health among Older Puerto Ricans in Boston, MA

Centers for Population Health and Health Disparities

AMGEN II (Sarnak) 01/01/04-12/31/04

Cardiovascular Disease in Chronic Renal Insufficiency: A Pooled Analysis of Clinical studies to Determine the Relationship of the Level of Renal Function and Anemia to the Risk of Clinical Outcome

Commonwealth Fund (Kaplan) 12/01/03-11/30/04

Physician profiling for Quality Assessment.

COMPLETED (2 most recent)

AHRQ (Greenfield) 10/1/01-12/31/02

Collaborative Clinical Culture and Quality of Care

R01 LM05607 (Griffith) 7/1/98-6/30/02

NIH/NLM

Assessing New Mathematical Models for Medical Events

Rigorously assess the relative predictive performance and transportability of other new modeling methods and of original hybrid model construction methods on a large clinical trial data set.

Curricular Vitae

Name: Mr. Khem Nath Kafle

Nationality: Nepalese

Date of Birth: [REDACTED]

Mailing/Office Address: Itahai Nagarpalika 1, Sunsari, Koshi Zone
Tel. No.00977-25-580052, 580381 (R)

Languages: Nepali

Academic Qualification: Grade Eight passed

Experience:

1. **Position** Nominated member of Itahari Municipality
Period 1997
Organization Itahari Municipality, Itahari 1

2. **Position** President
Period 2000
Organization Itahari Dairy Cooperative

CURRICULUM VITAE

Marilee Kane

Employment (1990-Present)

Preparation of a Strategic Gender and Community Development Orientation for the FAO Afghanistan Programme. (April-Aug. 2003)

Work performed in Kabul, Afghanistan with trips to Kandahar.

Community Action Planning for Nutrition and Food security in

Afghanistan: (October 2002 -March 2003) As follow-up to a workshop co-facilitated in Kandahar by the consultant on the "role of Agriculture in alleviating malnutrition and food insecurity", November 2002, worked with FAO field staff giving refresher training in participatory approaches and poverty assessment to support community action planning to improve nutrition and food security in five districts in Kandahar and two districts in Zabul. Activities centered on small scale poultry production and kitchen gardening. As further follow-up to the workshops, the consultant designed a strategic orientation for community development and gender within the FAO Afghanistan programme.

FAO Vulnerability Assessments (Food Security) in Afghanistan: (Jan. to

August 2002) Working with national consultants and the trained staff of local Afghan NGOs, designed a questionnaire for profiling the food security status and livelihoods strategies of IDPs (Internally Displaced Persons) in camps around Herat, Badakhshan (Faizabad) and Kandahar, Afghanistan. The stated objective of the exercise was to define the non-food needs of IDPs (including small farmers, rural-urban migrants, women-headed households and nomadic pastoralists--Kuchis) in order to assist these groups with interventions designed to preserve their livelihoods and food security.

Long-term Consultant with Community Forestry: (Sept. 1999- Jan. 2002)

FAO, Rome, Italy. The consultant coordinated a major project to produce a field guide and toolbox for mid-level government forestry managers. The field guide includes a toolbox and practical case studies illustrating how participatory approaches are being incorporated into government forestry programmes in India, Senegal and Bolivia.

The consultant was also responsible for preparation of a project proposal,

Establishing Community-Based Tree and Forest Product Enterprises that received funding from the UN Foundation (Ted Turner). In addition, the consultant prepared a project proposal, Strengthening Participatory Approaches in forestry in Ghana, Uganda and Guyana. The proposal was funded by DFID (UK) for 3 years beginning in October 2001.

CARE/International (July 1999) Project evaluation of a livelihoods project for agricultural support in Afghanistan.

Consultant to FAO and International Bureau for Humanitarian Issues (May 1998-August 1999) Consultancies including an evaluation of the NGO, Frontier Primary Health Care, funded by the government of Austria.

Gender/Community Development Advisor/Manager (Quetta, Pakistan (1993-1998) with Inter-Regional Project for Participatory Upland Conservation and Development (FAO participatory watershed management).

Project Manager: (COP) 1992-93 Experiment in International Living, (now World Learning). Balochistan, Pakistan. Funded by Bureau of Refugee Affairs and UNHCR. Manager of an integrated rural development project for Afghan refugees in 5 camps. Supervision of para-veterinary training and improved agriculture technology courses and a two-year teacher-training course for basic village education. Supervision of on-going basic education for girls in camps and income generation activities for women.

Project Planner (1990-1992), UNDP/OPS, Afghanistan. (Seconded from UNOCHA) UNIDATA (Balochistan, Pakistan) With UNOCHA (United Nations Office of Coordination and Humanitarian Assistance) in Afghanistan from March 1989 work focused on assisting Afghan groups from across the country to build their capacity to form themselves into NGOs. Under UNIDATA project with UNOPS, trained and supervised teams of Afghan data collectors who assessed war damage to infrastructure, housing, storage facilities, and education, health and district government facilities. Designed and managed data tabulation and prepared district level socio-economic profiles.

Related Employment History (1977-1990)

1988-89 (Consumers for World Trade, Washington, D.C.)
1983-87 Project Manager for social forestry project in Somalia,

Overseas Education Fund, USAID grant. Special recognition from Somali govt. for work with women in forestry.

1980-83 Associate Peace Corps Director (APCD) for Administration in Ghana, US Peace Corps.

1979-80 Peace Corps, Special Assistant, Policy and Planning Department. Designed internship for minority recruitment.

1977-79 English Teacher, Peace Corps, Tunisia.

1976 Berkley Urdu Language Program in Pakistan, Punjab University, Lahore, Pakistan.

Education

MA University of Minnesota, South Asian Studies and Anthropology, 1976.
 BA University of Minnesota, Anthropology, 1974.

Languages

Fluency in English, French, Urdu; Some knowledge and proficiency in Pushtu, Persian (Farsi) Arabic and Italian.

Publications

Vulnerable Livelihoods Assessment in Herat, Faizabad (Badakhshan) and Kandahar, Afghanistan, FAO, August 2002.

Gender and Sustainable Livelihoods: Natural Resource Management Case study for an Inter-agency workshop with FAO, WFP, UNDP, IFAD and DFID in Siena, Italy, 2000.

Gender and Environment Training module, FAO, 1998

Gender and Participation in Agricultural Development Planning, (Pakistan): Case study for FAO Headquarters, 1997, Rome.

Brahui Women's Indigenous Knowledge of Medicinal Plants, FAO, 1997.

The Credit Programme and Income Generating Activities of Brahui Women, FAO, 1997.

Footballs, Almond Blossoms and Blue Chickens: Forestry Extension with Rural Women in Pakistan, FAO UNASYLVA Magazine 184, Vol. 47, 1996.

Tracking Change: A Slide Competition in Pakistan, ILEIA Newsletter for Ecologically Sound Agriculture, Netherlands, Vol. 12, 1996.

The Daily Time Profile of Brahui Women, FAO, 1995.

A Socio-Economic Profile of Kandahar Province, Afghanistan. UNDP/UNIDATA, 1992.

Volunteerism and Development, A course developed in the Peace Corps, accredited for college credit by the Experiment in International Living. Course work designed for use in the recruitment of minority youth (1980). Video tapes available through DDerrick Publications, New York.

Curricular Vitae

Name: Mr. Krishna G.C
Nationality: Nepalese
Date of Birth: [REDACTED]
Mailing/Office Address: National Nutrition Programme
 Department of Food Technology and Quality Control
 Babarmahal, Kathmandu, Nepal
 Tel. No.977-1-4251132, 4476606 ®
 Fax No. 4262337
 [REDACTED]

Languages: English, Nepali, and Hindi excellent in written and spoken.
Special skill: Regular user Microsoft office 2000, Internet and some software.
Travel: Most of the districts of Nepal, India, Singapore, Malaysia, Thailand, Philippines, Belgium and some EU countries.

Academic Qualifications:

Institution	Major	Degree obtained
University of Gent, Belgium	Food Science and Nutrition (one year)	PG diploma in Food Science and Nutrition
University of the Philippines, Los Banos	Food & Nutrition Planning	Master of Professional Studies in Food and Nutrition Planning (MPS-FNP)
Central Campus of Technology, Dharan, Sunsari, Tribhuvan University, Nepal	Food Technology	Bachelor's Degree in Food Technology (B. Tech.)
M. D. College, Maharastra HSC State Board, Bombay, India	Science	Higher Secondary Certificate (H.S.C.)
T.M.V., Paiyupata, Baglung, SLC Board Nepal	Science and Mathematics	School Leaving Certificate (S.L.C.)

Work Experience:

Position: Food Research Officer (Gazetted-3rd)
Period: Since 1996 to present
Organization: National Nutrition Programme, Department of Food Technology & Quality Control.

Responsibilities:

- Research, Training, Coordination, Management
- Organize training, seminar and workshops National as well as International
- Planning Food and Nutrition Program at Macro and Micro level
- Prepared Information, Education and Communication materials for Food Nutrition Development Section.
- Community Assessment, program planning, budgeting, staffing, coordinating, reporting, surveying.
- Monitoring and Evaluation of Nutrition programs.

- Laboratory analysis and quality control of food.
- Coordinator and participants in National and International Level seminars, workshops.
- Nutrition advocacy
- Provide training on food utility, food processing and preservation, weaning food preparation, low cost nutritious food preparation, nutrition education and food and nutrition planning in different areas of Nepal to Agricultural officers, Livestock, Local Government, Women development and Public health Officers, JTA/JT, women group, farmer's group, entrepreneurs etc.
- Project Development, Planning and Management including cost effective analysis and cost benefit analysis.

Additional activities at DFTQC

Year: Since January 2004

Organization: WHO/SPS Enquiry Point, Department of Food Technology and Quality Control, Babarmahal, Kathmandu.

Responsibilities: Correspondence, coordination, SPS related programme planning and documentation

Position: Principal

Period: 1993-1995

Organization: Multipurpose Training Center, Katmandu

Responsibilities: Provide consultancy, feasibility study, and training on food processing and preservation, preparation and nutrition education.

Position: Consultant

Organization: Small-scale food processing factories such as dairy, noodles, spices

Responsibilities: Technical consultancy

Position: Quality controller (Anthropometrics)

Year: 1998

Organization: New Era/ Unicef/ MOH-HMG Nepal.

Responsibilities: Conducting National Micronutrient Survey

Proceeding, Investigation and Research Publication

- Nutritional Status of landless people of Dharan Municipality, Sunsari, Nepal (Dissertation submitted to Tribhuvan University) 1993.
- Importance of Breast milk, Food ERA yearly, CCT. Sunsari, Dharan 1994
- Baseline Survey (Food and Nutrition Situation) of Banke and Pyuthan District for Central Food Research Laboratory (CFRL), 1995/1996.
- Formulation of low cost highly nutritious snack recipe for School children, 1996, CFTRL
- Food and Nutrition Situation Survey of Ethnic group Kami (Lower caste) and Chettri (Upper caste) families in Daduldhura District, CFRL, 1997.
- Food and Nutrition Situation Survey of Sarki and Tharu Families in Kailali District of Nepal, 1CFRL, 996.
- Nutritional Status (Body Mass Index) and Food Production in Far-Western Region of Nepal (unpublished)
- Food Consumption Pattern and Nutritional status of different ethnic groups in Kanchanpur District, Nepal, CFRL, 1997.
- Monitoring and Evaluation of Community Nutrition Improvement Programs.

- Krishna G.C. et.al., Proceeding of Key Stakeholder meeting held in Kathmandu, Nepal to “Identify the Training Need of the People Working in the field of Food and Nutrition to support National Plan of Action on Nutrition, 2000”.
- Food and Nutrition Situation Survey Kavree District, CFRL 2000. Report Presented at District Seminar on 2000.
- Food and Nutritional Situation of Jhapa District, 2000. Report Presented at District level seminar on May 2, 2000.
- Food and Nutrition Situation of Syangha District, 2000. Report Presented at District level Seminar on July 3, 2000.
- Poster Presentation on Evaluation of the Nutritional Status (BMI) of adult’s population in Nepal, 2001, ICN proceeding, 2001, Vienna, Austria.
- Food Processing and Nutrition Training Module, 2002
- Food and Nutrition Planning and Management Training Module for officer, 2003, Department of Food Technology & Quality Control (DFTQC).
- Food and Nutrition Planning and Management Training Module for Asst level, 2003, DFTQC.
- Food and Nutrition Planning and Management Training Module for community level people, 2003, Department of Food Technology & Quality Control (DFTQC).
- Food Safety Situation in Kathmandu Metropolitan City, Public Health Department, KMC, 2003.
- Buckwheat: Product diversification and nutritive importance, DFTQC, 2003
- Fortification of Beaten Rice (Chiura) with Iron (Ferrous sulphate), DFTQC, 2003 Environment, Agriculture and Nutrition, Agriculture and Environment, Ministry of Agriculture and Cooperatives, HMG/N, 2003

Membership of different Professional and Social organization:

- Life Member of Nepal Nutrition Association, Nepal, Indian Food Scientist and Technologist Association, Nepal Food Scientist and Technologist Association, Food and Nutrition Planning Alumni, Nepal, Nutrition information sharing group, Nepal.

Name : MADHAB LAMSAL
 Father's name : [REDACTED]
 Date of birth : [REDACTED]
 Sex : Male
 Nationality : Nepalese
 Present Postal address : Dept. of Biochemistry
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 Post held at present : Associate Professor, Dept. of Biochemistry
 BPKIHS, Dharan, Nepal

EDUCATIONAL QUALIFICATIONS :
MSc, Ph.D (Biochemistry)

Work experiences:

Date/ Year	Post held	Employee
1. (a) Jan 2001- Till date	AssociatePrrof	BPKIHS, Dharan, Nepal
(b) Sept 2002 -Jan 2003	Associate Prof.	Visiting faculty, Xinxiang Medical College, Henan, PR China
2. Sept 997-Jan 2001	Assistant Prof.	BPKIHS, Dharan
3. Jan 1996-July 1997	Lecturer	Kathmandu Medical College, Kathmandu, Nepal
4. Jan 1994-Jan 1996	Lecturer	B.Ed. College,Tura, Meghalaya, India

Research & Clinical Laboratory:

Interest in Metabolic biochemistry, enzymology, protein chemistry, molecular biology & immunology.

Over ten years of experiences in the isolation, purification and characterization of proteins and enzymes (specially cathepsins). Two years of experience in hemoglobinopathy. Techniques versatile in: Spectrophotometry, Spectrofluorophotometry, HPLC, GC, gel filtration, gel electrophoresis, ultracentrifuge, liquid scintillation counter, viscometry, different microscopic, molecular biology and Immunological techniques, including cell culture, Cytokine expression, PCR, Realtime PCR, bioassays, ELISA, MACS and FACS

Well versed with techniques of biochemical analysis of metabolites in blood, urine, body fluids, tissues and hormones and handling of instruments like autoanalyzer, semi-autoanalyzer, ion selective electrodes, blood gas analyzer, flame photometers, etc.

Experiences of working with the different animal models of diseases in mice, rats and rabbits.

Research Projects:

1. Role of Benzodiazepines and GABA receptors on stress induced immunomodulation (Completed as Principal Investigator).
2. Study of fertility hormones in-patient with secondary amenorrhoea by immunodiagnostic methods (completed as Principal Investigator).
3. Role of Oxidative stress in Visceral Leishmaniasis (Ongoing as Principal Investigator).
4. Serum nitrite level and adenosine deaminase activities in the patients of visceral Leishmaniasis (Ongoing as Co-investigator).

Membership:

1. Life member: Indian Society for Atherosclerosis Research, New Delh
2. Life member: Association of Clinical Pathologists, Nepal.
3. Member (2002 - till date): Scientific Research Committee, BPKIHS, Dharan
4. Member (2002 - till date): Genetic core group, BPKIHS, Dharan

Workshops attended:

1. Advance WHO/TDR Course on Immunology, Vaccinology and Biotechnology applied to infectious diseases at Geneva, Lausanne (Switzerland) and Annecy (France) , 11 september-25 October 2003, and extended advanced course till the end of April 2004 (ongoing) at WHO-IRTC, Institute of Biochemistry, University of Lausanne, Switzerland..
2. Workshop on Phase IV Miltefosine in the treatment of Visceral Leishmaniasis at BPKIHS, Dharan, Nepal in conjunction with TDR/ WHO, 3-4 April 2003.
3. Essential Epidemiology and Research Method Workshop at BPKIHS, Dharan, Nepal, in conjunction with Clinical Epidemiology Unit, All India Institute of Medical Science, New Delhi, India, 27-31 January 2002.
4. Teachers training workshop on assessment technique at BPKIHS, Dharan, Nepal (in conjunction with the Teachers Training Center, JIPMER, Podicherry, India) 28-30 March 2001.
5. Workshop on clinical chemistry curriculum at postgraduate level, ABCI-98 at AFMC, Pune, India, 17th December 1998.
6. Regional workshop on electron microscopy at RSIC, North Eastern Hill University, Shillong, Meghalaya, India, June 28-30, 1994.

International Conferences attended:

1. American Society of Biochemistry and Molecular Biology (ASBMB/IUBMB)s and experimental Biology, New Orleans, Lousiana, USA(2002).
2. Asia Pacific Conference of Clinical Biochemistry (APCCB), New Delhi, India (2002).
3. Conference of the Indian Society for Atherosclerosis Research (ISAR), Dharan, Nepal (2001)
4. Association of Clinical Biochemist, India (ACBI), Pune, Maharashtra, India (1998)
5. International Union of Biochemistry and Molecular Biology (IUBMB), New Delhi,(1994)
6. Society of Biological Chemist of India (SBCI), Hyderabad, Andra Pradesh, India(1992)
7. Society of Biological Chemists of India(SBCI), Calcutta, West Bengal, India (1991)

Research Publications (Full Length):

1. Lamsal M, Baral N, Khan MY (2003) Alteration of thiol cathepsins activities in low dose gamma irradiation. *J. Institute Medicine* 25(1),39-42.
2. Badu B, Dulal S, Baral N, Lamsal M, Shrestha JK, Koirala S (2003) Serum level of low density lipoprotein cholesterol in hypertensive retinopathy. *Southeast Asian J Trop Med Public Health*.34(1),199-201.
3. Sharma S, Lamsal M, Chauhan HS, Kalra OP (2003) Use of single voided urine specimen for estimation of quantitative proteinuria. *J Nepal Medical Assoc.*42,79-82.
4. Baral N, Lamsal M, Dhungel S, Puri S. (2002). Hypoglycemic effect of aqueous extract of oxalis sensitiva in diabetic rabbits, *Nepal Med. Coll J* 4(2), 78-80.
5. Baral N, Lamsal M, Srivastava LM (2002). Significance of complement profile and complement receptor 1 expression in RBC and kidney tissue in immune complex mediated tissue. *J Nepal Med. Assoc.* 41, 481-484.
6. Baral N, Lamsal M, Koner BC, Koirala S (2002). Thyroid dysfunction in eastern Nepal, *South East Asian J Trop Med. Pub Health* 33, 638-641.
7. Koner BC, Lamsal M, Banerjee BD, Baral N (2001) Conventional teaching remains effective in teaching medical biochemistry in BPKIHS, Nepal, although students enjoy supplementary computer teaching, *Biochem Mol Biol Edu* 29, 137-141.
8. Baral N, Koner BC, Lamsal M, Niraula I, Dhungel S (2001) Thyroid function testing in eastern Nepal and the impact of CME on subsequent requests. *Tropical Doctor* 31, 155-157.
9. Seal R, Lamsal M, Baral N (2000) Effect of low dietary proteins on the glycogen content in liver and muscle tissues of rats. *Health Renaissance* 2, 13-15.
10. Karki P, Baral N, Lamsal M, Rizal S, Koner BC, Dhungel S, Koirala S (2000) Prevalence of non insulin dependent diabetes mellitus in urban areas of eastern Nepal: A hospital based study. *South East Asian J Trop Med. Pub Health* 31, 163-166.
11. Baral N, Koner BC, Karki P, Ramaprasad C, Lamsal M, Koirala S (2000) Evaluation of a new WHO diagnostic criteria for diabetes on the prevalence of abnormal glucose tolerance in heterogenous Nepali population: The implication of measuring glycated hemoglobin. *Singapore Med J* 41, 264-267.
12. Baral N, Ramaprasad C, Lamsal M, Koner BC, Koirala S (1999) Assay of iodine deficiency status in three ecological regions of Nepal by a microdigestion method. *South East Asian J Trop Med. Pub Health* 30 (3), 527-531.
13. Agarwal SK, Choudhury SD, Lamsal M, Khan MY (1997) Catalytic and physicochemical characterization of goat spleen cathepsin B. *Biochem Mol Biol Int* 42, 1215-1226.
14. Choudhury SD, Lamsal M, Agarwal SK, Sharma R, Khan MY (1997) On the tissue/ species dependence of cathepsin B isozymes. *Mol Cell Biol* 177, 89-95.
15. Lamsal M, Agarwal SK, Choudhury SD, Khan MY. (1997) Purification and tissue/ species dependence of the specificity of buffalo kidney cathepsin B. *Indian J Biochem Biophys* 34, 461-469.

Books/ Manuals/ Monographs:

1. Contributory author of four chapters, In: A practical handbook on techniques in Biochemistry, Microbiology and Pathology, BPKIHS Publication 2000.
2. Contributory author on Epidemic Dropsy: Biochemical Aspects, In: Epidemic Dropsy: an update. BPKIHS Publication 1999.
3. Contributory authors of three chapters on the clinical biochemistry, In: Participants manual on strengthening the laboratory skills of Lab Technicians in the field of biochemistry, microbiology and pathology. BPKIHS Publication. 1999.

CURRICULUM VITAE

Mahendra Nath Lohani

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225 Keightly Drive Apt. C-13
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1015 Louisiana Street
Little Rock, AR 72202
Email: mahendra.lohani@heifer.org

PERMANENT ADDRESS



CITIZENSHIP Nepali

ACADEMIC QUALIFICATION

- A. Post Doctoral Study on Animal Nutrition and Development. 1990/91. U.C. Davis, California, USA.
- B. Ph.D. in Animal Science/Agriculture Economics. 1987. UP at Los Banos, Philippines.
- C. M.S. in Animal Science/ Forage & Pasture Agronomy. 1985. UP at Los Banos, Philippines.
- D. Bachelor of Veterinary Science and Animal Husbandry (B. V. Sc. & A. H., equivalent to DVM) 1979. Rajendra Agricultural University, Bihar Veterinary College, Patna, India.

WORK HISTORY

2003 May-Present Director of Asia/South Pacific Program, Heifer International, Little Rock, AR, USA
2003 Feb-April Interim Director of Asia/South Pacific Program, Heifer Project International Inc., Little Rock,
1997-Jan 2003: Country Director, Heifer Project International, Nepal Program, Satdobato, Lalitpur, Nepal.
1996-2002: Honorary Advisor, Nepal Feed Industries Association and Nepal Hatchery Association, Nepal.
2000-04: Elected Member, Nepal Veterinary Council, Kathmandu, Nepal.
1996-98 Vice President, Nepal Veterinary Association, Kathmandu, Nepal.
1994-97 Executive Chairman, Pancharatna Feeds Pvt. Ltd., and Pancharatna Hatchery Pvt. Ltd., Nepal
1992-93 A) Planning Officer, Dept. of Livestock Services, Min. of Agriculture, Nepal
B) Member of Faculty Board, Institute of Agriculture and Animal Science, Chitwan, Nepal.
C) Editor, Bulletin of Veterinary Science and Animal Husbandry, NVA, Nepal.
D) Executive Director, Veterinary Service and Research Center, Kathmandu, Nepal.
1991-92 In-charge, Infectious Disease and Parasite Control Program, Tripureshwor, Kathmandu, Nepal.
1988-90 Planning Officer, Department of Livestock Services, Min. of Agriculture, Nepal.
1988-90 Unit Chief, Monitoring and Evaluation Unit, Promotion of Livestock Breeding Project (HMG/GTZ). Harihar Bhawan, Lalitpur, Nepal
1987-88 In-charge, Biochemistry and Toxicology Dept., Central Veterinary Disease Investigation and Research Laboratory, Tripureshwor, Kathmandu, Nepal
1980-82 In-charge, District Livestock Services Office, Tansen, Palpa, Nepal
1980-82. In-charge of Livestock Section, Tinnau Watershed Project (HMG/GTZ/SATA), Palpa, Nepal
1979-80 Assistant District Veterinarian. Veterinary Hospital and Semen Bank, Bhairhawa, Nepal

SHORT-TERM SERVICE PROVIDED TO:

- European Commission (EC)/AHT gmbh, Germany in Nepal in 1993.
- NPC/MLD/UNDP, Nepal in 1993.
- Winrock International, Nepal in 1993
- NPC/UNDP/SAPPROS-Nepal in 1993.

- Promotion of Livestock Breeding Project, Nepal in 1988-93.
- Tribhuvan University/IAAS, Nepal in 1992
- FAO/APPROSC, Nepal in 1991.
- Ceramics Promotion Project, Nepal in 1990.
- Small Business Promotion Project, Nepal in 1989.
- Karnali-Bheri IRDP, Nepal in 1989
- FAO/RAPA, Bangkok, in Nepal 1989.
- APROSC, Nepal in 1987-89
- Interface Pvt. Ltd. Nepal in 1988.
- Avinash Hatchery and Everest Feeds, Pvt. Ltd in 1993.
- Neelam Hatchery, Pokhara. 1990

FELLOWSHIPS RECEIVED

- A. Hubert H. Humphrey Fellowship to pursue graduate studies on Animal Nutrition and Development at UC Davis in 1990-91
- B. FAO Fellowship to pursue PhD degree program at UPLB, Philippines in 1986-87
- C. German Foundation for International Development (DSE) Fellowship to pursue MS degree program at UPLB, Philippines in 1982-85.
- D. Colombo Plan Scholarship to pursue B.V.Sc. & A. H. in India in 1975-79.

ACADEMIC HONORS AND AWARDS

- A. Mahendra Vidya Bhusan, Class-A medal from His Majesty's the King of Nepal in recognition of outstanding academic achievement in 1988
- B. Phi-Kappa-Phi Honor Society, University of the Philippines Chapter, Elected for outstanding academic performance. 1986
- C. Gamma-Sigma-Delta Honor Society of Agriculture, University of the Philippines Chapter, Elected for outstanding academic performance. 1985
- D. Best Paper in Ruminant Production Award from Philippine Society of Animal Science, Philippines in 1984

LANGUAGES

Fluent : Nepali, English, Hindi
 Limited : Urdu (Pakistani) and Tagalog (Philipino).

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[Updated on March 18, 2004]

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Laurie C. Miller, M.D.
Box 286-New England Medical Center
750 Washington St.
Boston, MA 02111 USA
lmiller1@tufts-nemc.org
Citizenship: USA

Education

1974 B.A. (cum laude) Yale College, New Haven, CT
1978 M.D. Ohio State University College of Medicine, Columbus, OH

Post-graduate training

Residency, Pediatrics, University of Minnesota, Minneapolis, MN 1978-82
Fellow, Pediatric Nephrology, University of Minnesota, Minneapolis, MN 1982-85
Fellow, Pediatric Rheumatology, New England Medical Center, Boston, MA 1985-86

Academic Appointments

1989- 98 Assistant Professor, Dept. of Pediatrics, Tufts-New England Medical Center
1998- Associate Professor, Dept. of Pediatrics, Tufts-New England Medical Center

Certification

1984 American Board of Pediatrics
1985 American Board of Pediatric Nephrology
1992 American Board of Pediatric Rheumatology (recertified 2000)

International Pediatric Consultant

Egypt, China, Pakistan, Afghanistan, Bosnia, Russia, Romania, Kazakhstan, Nepal, Guatemala

Graduate students trained: 12 Fellows in pediatric rheumatology, 2 Tufts undergraduates honors theses (M.S. equivalent), committee member Occupational Therapy Ph.D. candidate

Selected Publications (peer-reviewed) [International pediatrics in bold]

1. Rubel EW, Smith DJ, Miller LC. Organization and development of brain stem auditory nuclei of the chicken: ontogeny of n. magnocellularis and n. laminaris. *Journal of Comparative Neurology* 1976; 166:469-89.
2. Miller LC, Bock GH, Lum CT, Najarian JS, Mauer SM. Transplantation of adult kidney into the very small child: long-term outcome. *Journal of Pediatrics* 1982; 100:675-80.
3. Miller LC, Najarian JS, Mauer SM. Renal replacement therapy [letter]. *New England Journal of Medicine* 1983; 309:1329.
4. Miller LC, Lum CT, Bock GH, Simmons RL, Najarian JS, Mauer SM. Transplantation of the adult kidney into the very small child. Technical considerations. *American Journal of Surgery* 1983; 145:243-7.
5. Hall SL, Miller LC, Duggan E, Mauer SM, Beatty EC, Hellerstein S. Wegener granulomatosis in pediatric patients. *Journal of Pediatrics* 1985; 106:739-44.
6. Miller LC, Dinarello CA. Biologic activities of interleukin-1 relevant to rheumatic diseases. *Pathology & Immunopathology Research* 1987; 6:22-36.
7. Miller LC, Smith SA, Michael AF. Mononuclear cell profiles in muscle biopsies from patients with polymyositis and childhood dermatomyositis [letter]. *Journal of Rheumatology* 1987; 14:1068-70.
8. Miller LC, Michael AF, Kim Y. Childhood dermatomyositis. Clinical course and long-term follow-up. *Clinical Pediatrics* 1987; 26:561-6.
9. **Gray ED, Abdin ZH, el Kholy A, et al. Augmentation of cytotoxic activity by mitogens in rheumatic heart disease. *Journal of Rheumatology* 1988; 15:1672-6.**
10. Miller LC, Michael AF, Baxter TL, Kim Y. Quantitative muscle testing in childhood dermatomyositis. *Archives of Physical Medicine & Rehabilitation* 1988; 69:610-3.
11. **Miller LC, Gray ED, Mansour M, et al. Cytokines and immunoglobulin in rheumatic heart disease: production by blood and tonsillar mononuclear cells. *Journal of Rheumatology* 1989; 16:1436-42.**
12. **Regelmann WE, Talbot R, Cairns L, et al. Distribution of cells bearing "rheumatic" antigens in peripheral blood of patients with rheumatic fever/rheumatic heart disease. *Journal of Rheumatology* 1989; 16:931-5.**

13. Miller LC, Isa S, LoPreste G, Schaller JG, Dinarello CA. Neonatal interleukin-1 beta, interleukin-6, and tumor necrosis factor: cord blood levels and cellular production [see comments]. *Journal of Pediatrics* 1990; 117:961-5.
14. Vannier E, Miller LC, Dinarello CA. Histamine suppresses gene expression and synthesis of tumor necrosis factor alpha via histamine H2 receptors. *Journal of Experimental Medicine* 1991; 174:281-4.
15. Johnson DE, Miller LC, Iverson S, et al. The health of children adopted from Romania [see comments]. *Jama* 1992; 268:3446-51.
16. Miller LC, Sisson BA, Tucker LB, DeNardo BA, Schaller JG. Methotrexate treatment of recalcitrant childhood dermatomyositis. *Arthritis & Rheumatism* 1992; 35:1143-9.
17. Miller LC, Isa S, Vannier E, Georgilis K, Steere AC, Dinarello CA. Live *Borrelia burgdorferi* preferentially activate interleukin-1 beta gene expression and protein synthesis over the interleukin-1 receptor antagonist. *Journal of Clinical Investigation* 1992; 90:906-12.
18. Miller LC, Kaplan MM. Serum interleukin-2 and tumor necrosis factor-alpha in primary biliary cirrhosis: decrease by colchicine and relationship to HLA-DR4. *American Journal of Gastroenterology* 1992; 87:465-70.
19. Porat R, Poutsiaika DD, Miller LC, Granowitz EV, Dinarello CA. Interleukin-1 (IL-1) receptor blockade reduces endotoxin and *Borrelia burgdorferi*-stimulated IL-8 synthesis in human mononuclear cells. *FASEB Journal* 1992; 6:2482-6.
20. Vannier E, Miller LC, Dinarello CA. Coordinated antiinflammatory effects of interleukin 4: interleukin 4 suppresses interleukin 1 production but up-regulates gene expression and synthesis of interleukin 1 receptor antagonist. *Proceedings of the National Academy of Sciences of the United States of America* 1992; 89:4076-80.
21. Miller LC, Lynch EA, Isa S, Logan JW, Dinarello CA, Steere AC. Balance of synovial fluid IL-1 beta and IL-1 receptor antagonist and recovery from Lyme arthritis [see comments]. *Lancet* 1993; 341:146-8.
22. Nocton JJ, Miller LC, Tucker LB, Schaller JG. Human parvovirus B19-associated arthritis in children. *Journal of Pediatrics* 1993; 122:186-90.
23. Bloom BJ, Tucker LB, Klein-Gitelman M, Miller LC, Schaller JG. Worsening of the rash of juvenile dermatomyositis with hydroxychloroquine therapy [letter; comment]. *Journal of Rheumatology* 1994; 21:2171-2.
24. Bloom BJ, Miller LC, Tucker LB, Schaller JG. Magnetic resonance imaging in staphylococcal osteomyelitis with negative bone scan. *Clinical Pediatrics* 1994; 33:686-7.
25. Denardo BA, Tucker LB, Miller LC, Szer IS, Schaller JG. Demography of a regional pediatric rheumatology patient population. *Affiliated Children's Arthritis Centers of New England* [see comments]. *Journal of Rheumatology* 1994; 21:1553-61.
26. Miller LC. Cytokines in rheumatic diseases. *Biotherapy* 1994; 8:99-111.
27. Miller LC, Timouri M, Wijnker J, Schaller JG. Afghan refugee children and mothers. *Archives of Pediatrics & Adolescent Medicine* 1994; 148:704-8.
28. Bloom BJ, Tucker LB, Miller LC, McCauley RG, Schaller JG. Bicipital synovial cysts in juvenile rheumatoid arthritis: clinical description and sonographic correlation. *Journal of Rheumatology* 1995; 22:1953-5.
29. Bloom BJ, Tucker LB, Miller LC, Schaller JG. von Willebrand factor in juvenile dermatomyositis [see comments]. *Journal of Rheumatology* 1995; 22:320-5.
30. Kasi M, Kausar P, Naz R, Miller LC. Treatment of diarrhoea in infants by medical doctors in Balochistan, Pakistan. *Journal of Diarrhoeal Diseases Research* 1995; 13:238-41.
31. Miller LC. More on Kienbock's disease and avascular necrosis [letter; comment]. *Clinical Pediatrics* 1995; 34:395.
32. Miller LC, Sharma A, McKusick AF, Tassoni JP, Dinarello CA, Kaplan MM. Synthesis of interleukin-1 beta in primary biliary cirrhosis: relationship to treatment with methotrexate or colchicine and disease progression. *Hepatology* 1995; 22:518-24.
33. Miller LC, Jami-Imam F, Timouri M, Wijnker J. Trained traditional birth attendants as educators of refugee mothers. *World Health Forum* 1995; 16:151-6.
34. Miller LC, Kiernan MT, Mathers MI, Klein-Gitelman M. Developmental and nutritional status of internationally adopted children. *Archives of Pediatrics & Adolescent Medicine* 1995; 149:40-4.

35. Stone PJ, Korn JH, North H, et al. Cross-linked elastin and collagen degradation products in the urine of patients with scleroderma. *Arthritis & Rheumatism* 1995; 38:517-24.
36. Wyckoff PM, Miller LC, Tucker LB, Schaller JG. Neuropsychological assessment of children and adolescents with systemic lupus erythematosus. *Lupus* 1995; 4:217-20.
37. Gottlieb BS, Miller LC, Ilowite NT. Methotrexate treatment of Wegener granulomatosis in children. *Journal of Pediatrics* 1996; 129:604-7.
38. Miller LC, Sisson BA, Tucker LB, Schaller JG. Prolonged fevers of unknown origin in children: patterns of presentation and outcome. *Journal of Pediatrics* 1996; 129:419-23.
39. Miller LC, Langhans N, Schaller JG, Zecevic E. Effects of war on the health care of Bosnian children [letter]. *JAMA* 1996; 276:370-1.
40. Pomianek MJ, Colton CK, Dinarello CA, Miller LC. Synthesis of tumor necrosis factor alpha and interleukin-1 receptor antagonist, but not interleukin-1, by human mononuclear cells is enhanced by exposure of whole blood to shear stress. *ASAIO Journal* 1996; 42:52-9.
41. Albers LH, Johnson DE, Hostetter MK, Iverson S, Miller LC. Health of children adopted from the former Soviet Union and Eastern Europe. Comparison with preadoptive medical records. *JAMA* 1997; 278:922-4.
42. Akin E, Tucker LB, Miller LC, Schaller JG. Splenic vasculitis in juvenile onset mixed connective tissue disease[letter]. *Journal of Rheumatology* 1998;25:1444-5.
43. Akin E, Miller LC, Tucker LB. Minocycline-induced lupus in adolescents. *Pediatrics* 1998; 101:926.
44. Bloom BJ, Tucker LB, Miller LC, Schaller JG. Fibrin D-dimer as a marker of disease activity in systemic onset juvenile rheumatoid arthritis. *Journal of Rheumatology* 1998; 25:1620-5.
45. Miller LC. Infectious causes of arthritis in adolescents. *Adolescent Medicine* 1998; 9:115-26, vi.
46. Ozen S, Tucker LB, Miller LC. Identification of Th subsets in juvenile rheumatoid arthritis confirmed by intracellular cytokine staining [letter]. *Journal of Rheumatology* 1998; 25:1651-3.
47. Stein SL, Miller LC, Konnikov N. Wegener's granulomatosis: case report and literature review. *Pediatric Dermatology* 1998; 15:352-6.
48. Bloom BJ, Miller LC, Tucker LB, Schaller JG, Blier PR. Soluble adhesion molecules in juvenile rheumatoid arthritis. *Journal of Rheumatology* 1999; 26:2044-8.
49. Miller LC. Caring for internationally adopted children [editorial; comment] [see comments]. *New England Journal of Medicine* 1999; 341:1539-40.
50. Miller LC. Internationally adopted children—immunization status [letter]. *Pediatrics* 1999; 103:1078.
51. Aronson J, Bledsoe J, Hendrie N, Hostetter M, Johnson D, Mandalakas A, Miller L, Olness T, Ochs T, et al. Elevated lead levels among internationally adopted children. *MMWR* 2000, 49:97-100.
52. Miller LC. Initial assessment of growth, development, and the effects of institutionalization in internationally adopted children. *Pediatric Annals* 2000; 29:224-32.
53. Miller LC, Hendrie NW. Health of children adopted from China. *Pediatrics* 2000; 105:E76.
54. Miller LC, Comfort K, Kelly N. Immunization status of internationally adopted children. *Pediatrics* 2001, 108(4):1050-1.
55. Bloom BJ, Miller LC, Blier PR. Soluble adhesion molecules in pediatric rheumatic diseases. *J Rheumatol.* 2002 Apr;29(4):832-6.
56. Bloom BJ, Nelson SM, Alario AJ, Miller LC, Schaller JG. Synovial fluid levels of E-selectin and ICAM-1: relationship to joint inflammation in children with chronic arthritis. *Rheumatol Int*, 2002, 22(5):175-77, 2002.
57. Requena-Silla Y, Rosenfield C, Miller LC. Antiphospholipid antibodies and Down syndrome: a case series. *J Pediatr Hematol Oncol*, 2002, 24(7): 575-8.
58. Miller LC, Kelly N, Taanemaat M, Grand RJ. Serologic prevalence of antibodies to *Helicobacter pylori* in internationally adopted children. *Helicobacter*, 2003, 8(3):173-8.

Book

Miller LC. *The Handbook of International Adoption Medicine*, Oxford Univ Press, in press, 2004.

Bradley C. Mitchell


brad.Mitchell@state.ma.us

Experience

Director of Regulatory and Consumer Services 1/00 – Present
Massachusetts Department of Food and Agriculture, Boston, MA.

Oversee the Bureaus of Pesticides, Farm Products, and Plant Industries. Programs. Manage a multi-disciplinary staff of 24 including technical, field and administrative staff with annual program revenues of approximately \$4.8 million annually. The Division is responsible for regulatory, educational and technical assistance programs in the areas of pesticide use, Integrated Pest Management, apiculture, animal feed, fertilizer, plant and seed regulation, resource conservation, watershed protection and management, plant biotechnology, invasive species and organic certification. Responsible for the preparation and management of federal grants averaging approximately \$350,000 annually. Department policy lead on issues relating to agricultural chemicals, environmental justice and biotechnology.

Project Coordinator 6/03-3/04
Animal Source Foods for Nepali Children – Assessment Project
Responsible for coordination of efforts of a multi-disciplinary team exploring means to decrease barriers to consumption of animal source foods in the diets of children in Nepal.

Bureau Chief 8/95-1/00
Massachusetts Department of Food and Agriculture, Pesticide Bureau. Boston, MA.
Responsible for management of state pesticide regulatory and technical assistance program. Programs include: enforcement, rights-of-way, worker protection, product registration, groundwater protection, record keeping, endangered species, Geographical Information Systems, and Integrated Pest Management. Managed a staff of 17 individuals

Toxicologist/Risk Assessment Specialist 9/92-8/95
Massachusetts Department of Food and Agriculture, Pesticide Bureau. Boston, MA
Responsible for the reparation and presentation of technical assessments of human health and environmental risks posed by pesticides to be considered for state registration. Prepared documentation and case reviews for product registration, Special Local Needs registrations, Emergency Exemptions, and Experimental Use Permits. Provided technical assistance to federally funded programs within the Department, as well as to state and local agencies, industry, the public and the media.

Merriam Hill Fellow, Tamil Nadu, India 1/92-6/92
Merriam Hill Institute, New Hampshire, USA

Conducted a pilot research study to qualify the extent and severity of pesticide related poisonings among rural farm-workers. This study also explored the knowledge of this group on farming practices related to pest management. Based, in part on the results of this research, wrote a draft script for a training and awareness on proper pesticide use for farm-workers. The film has since been produced in the Tamil language.

Grant Recipient

1/92-6/92

Millipore Corporation, Foxboro, Massachusetts, USA

Field-tested experimental immuno-assay kits for organochlorine and carbamate pesticides. Conducted pilot survey of ground and surface water supplies for pesticide.

Assistant Environmental Specialist

5/91-1/92

Boston Public Schools. Boston, MA

Conducted hazard assessments (asbestos, lead, PCBs, lab chemicals) in accordance with federal and state regulations. Developed and implemented policies regarding remediation of hazardous materials. Supervised contractors involved in remediation projects. Implemented job safety and hazard communication training programs. (6/91-1/92)

Intern

11/90-3/91

Massachusetts Department of Public Health, Division of Refugee and Immigrant Health. Boston, MA

Responsible for research and preparation of a project proposal involving health education in statewide English-As-a-Second-Language programs. (1990)

ESL Instructor

5/89-9/90

International Institute of Boston, MA

Taught English-As-a-Second-Language to groups of Vietnamese teenagers resettled in the US. (1988-1990)

Education

Boston University School of Public Health: Boston, MA

Master of Public Health

Concentration in Environmental Health

President, Student Council.

Emerson College: Boston, MA

Bachelor of Fine Arts in Writing and Publishing

Honors: *Cum Laude*

Memberships and Appointments

Inerts Disclosure Workgroup Committee. Board Member. National advisory panel convened to advise the US Environmental Protection Agency on the issue of disclosure of inert ingredients in pesticide formulations. 2000-present.

Massachusetts IPM Council. Founder and Member. Consortium of Consumer, Industry and Government organizations the purpose of which is to advance the adoption of Integrated Pest Management in non-agricultural settings.

MA IPM Steering Committee, Member. Multi-disciplinary group of farmers, consumer advocates, researchers, Extension educators, and government officials charged with developing policy for Integrated Pest Management in Massachusetts. Responsible for the allocation of approximately \$600,000 annually to IPM research and demonstration programs in Massachusetts.

United States Department of Agriculture (USDA), MA State Technical Committee, Member. Agency Representative. Group of stakeholder which advises USDA, Natural Resource Conservation Service on policy and priorities for federal resource conservation programs in the state of Massachusetts.

MA Commission for Soil, Water and Related Resources. Agency Representative. Stakeholder committee, which advises Conservation Districts on policy concerning state resource conservation programs in Massachusetts.

Massachusetts Independent Certification, Inc. *Board Member.* Non-profit organization designed to provide no/low-cost certification services to small farmers in order to meet requirements of the United States Department of Agriculture, National Organic Program

Graduate Student Supervision

Supervised 8 graduate interns in various fields including law, public health, entomology and environmental policy.

Publications

Mitchell, Brad. Developing an Infrastructure for Biotechnology, Feb 15, 2001. Harvard University Center for International Development. Science, Technology and Innovation Program - Viewpoints.

<http://www.cid.harvard.edu/cidbiotech/comments/comments111.htm>

Mitchell, Brad. Integrated Pest Management: A Kit for Building Managers.

Massachusetts Department of Food and Agriculture. 1993.

http://www.state.ma.us/dfa/pesticides/publications/IPM_kit_for_bldg_mgrs.pdf

Curricular Vitae

Name: Mr. Punya Prasad Neupane
Nationality: Nepalese
Date of Birth: [REDACTED]
Mailing/Office Address: Itahai Nagarpalika 1, Sunsari, Koshi Zone
Tel. No.00977-25-580052, 580381 (R)
Languages: Nepali
Special skill: Group Mobilization
Academic Qualification Intermediate in Arts, Major in Sanskrit language

Experience

- 1. Position** Teacher
Period 1993-1995
Organization Janata Madhyam Vidhyala, Ithari
Responsibilities Teacher in Sanskrit Language
- 2. Position** Secretary
Period 1982
Organization Dairy Cooperative
- 3. Position** Manager
Period 1990
Organization Dairy Cooperative
- 4. Position** President
Period 2000
Organization Integrated Agriculture Reform and Environment Preservation Forum (NGO)

CURRICULUM VITAE

Bidur Pakhrin

HOME ADDRESS

[REDACTED]

OFFICE ADDRESS

Heifer Project International Nepal Program
G.P.O. Box 6043, Kathmandu, Nepal
Phone: +977 1 5532554/5544841, Fax: +977 1 5542873
Email: bidur@hpinepal.org.np

Present:

Jhamsikhel, Lalitpur Metropolis Ward No. 2
Phone No. 5-524155

PERSONAL DATA

Sex : Male
Date of birth : [REDACTED]
Citizenship : Nepali
Family Status : Married, have two children

ACADEMIC QUALIFICATION

- A. B.V.Sc. & A.H., IAAS, 1996. (71.1%). Rampur Campus, Tribhuvan University, Nepal
- B. I.Sc. Ag. 1983. (72%). Rampur Campus, Tribhuvan University, Nepal
- C. S.L.C. 1977. (56%). S.L.C. Board Examination, HMG Nepal

TRAINING

- Training on *Global Development & Ecological Sustainability*. 17 July-18 August, 2001. Au Sable Institute. Pacific Rim, Coupeville, Whidbey Island. USA.
- *Negotiation Skill for Problem Solving*. July 3-7, 2000. Nepal Administrative Staff College, Jawalakhel, Lalitpur, Nepal.
- Facilitator Training for *Participatory Self Evaluation & Country Program Evaluation*. An HPI Training of Trainers Workshop. November 15-21, 1998. Cantho, Vietnam.
- *Facilitating Gender Justice in Development*. An HPI Training of Trainers Workshop. June 9-13, 1998. Phuket. Thailand.
- *Learning to Teach*. An HPI Training of Trainers Workshop. May 23-27, 1998. Trichy, India
- *Cornerstones Model: Value-based Planning and Management*. March 24-26, 1998. Gaidakot, Nawalparasi. Nepal
- *Project Proposal Writing Training*. November 17-19, 1997. PAC, Dhankuta. Organised by Hill Agricultural Research Programme, DFID, UK.
- *Problem identifying exercise using Problem Census Technique*. October 3-5, 1997. PAC, Dhankuta.
- *Project Concept Note writing training*. August 27-29, 1997. PAC, Dhankuta. Organised by Hill Agricultural Research Programme, DFID, UK.

WORKSHOP/CONFERENCE ATTENDED

International:

- International Program Retreat. November 18-19, 2003. Heifer International HQ, USA.
- A/SP Gender Workshop Nepal. April 29-7 May, 2002. Nagarkot, Nepal.
- Twenty Second OIE Regional Commission for Asia, the Far East and Oceania. November 27-30, 2001. Kathmandu, Nepal.
- Seventh International Goat Conference. May 15-20, 2000. Tours, France.
- HPI A/SP Region First Support Staff Workshop. March 1-5, 1999. Cagayan De Oro, Philippines.
- HPI A/SP Team Meeting 1998. Phuket, Thailand.
- Livestock in the Hills of Nepal - II. Second International Livestock Workshop, organised by PAC, Dhankuta in 1990.

National:

- Seventh National Veterinary Conference. Hotel Radisson, Lazimpat November 5-7, 2003.
- Sixth National Outreach Research Workshop. July 4-6, 2002. National Agriculture Research Council (NARC). Khumaltar, Lalitpur, Nepal.
- Women in Agriculture. November 21-23, 2001. MoAC, Kathmandu, Nepal.
- First National Conference of Nepal Veterinary Council. September 22-23, 2000. Kathmandu, Nepal.
- Sixth National Veterinary Conference. February 22-24, 1999. Kathmandu, Nepal.
- Second National Livestock and Fisheries Research Workshop. September 24-25, 1997. NARC, Khumaltar, Lalitpur.
- Fifth National Veterinary Conference. September 11-13, 1996. Kathmandu, Nepal.
- Research Impact Study Planning Workshop. September 4-5, 1994. PAC, Dhankuta, Nepal.

WORK HISTORY

- 2003 Oct to date: Interim Country Director, Heifer Project International Nepal Program, Satdobato, Lalitpur, Nepal.
- 2003 Feb-Sept: Acting Country Director, Heifer Project International Nepal Program, Satdobato, Lalitpur, Nepal.
- 1998 to date: Technical Officer, Heifer Project International, Nepal Program, Satdobato, Lalitpur, Nepal.
- 1997-98: Technical Officer, Pakhribas Agricultural Centre, Dhankuta, Nepal.
- 1987-96: Senior Technician, Pakhribas Agricultural Centre, Dhankuta, Nepal.
- 1984-86: Junior Technician, Fisheries Development Centre, Janakpur, Nepal.

FELLOWSHIPS RECEIVED

Overseas Development Administration (ODA), UK Scholarship in 1989

RESEARCH ACTIVITIES INVOLVED

- Training Communities in Livestock-derived Foods Safety and Hygiene in Chitwan district, Nepal. A collaborative project with Tufts University, School of Veterinary Medicines, Institute of Agriculture and Animal Sciences, Tribhuvan University, Nepal, and National Zoonoses and Food Hygiene Research Center, Kathmandu, Nepal, 2003.
- Interaction between *Fasciola gigantica* infection and different levels of nutrition in Nepalese hill goats phase I [a collaborative research project with Centre for Tropical Veterinary Medicine (CTVM), Edinburgh University and Pakhribas Agricultural Centre (PAC) Dhankuta, Nepal, 1997].
- Interaction between *Fasciola gigantica* infection and different levels of nutrition in Nepalese hill buffaloes phase II [a collaborative research project with Centre for Tropical Veterinary Medicine (CTVM), Edinburgh University and Pakhribas Agricultural Centre (PAC) Dhankuta, Nepal, 1998].
- Reproductive problems in pigs in the eastern hills of Nepal. NASRI, NARC, 1997.
- Study on Colour preference of Pigs in eastern hill farmers, PAC, Dhankuta
- On-farm research on Goats Nematode Control Strategy, PAC, Dhankuta
- Effect of feeding different tree fodder on milk production of buffaloes
- Study of livestock farming system in eastern hills of Nepal

TRAINING DELIVERY

- Facilitated Heifer Cornerstones Model : Values-based Project Planning and Management Workshop to Veterinarian and Livestock Officers of Department of Livestock Services, His Majesty's Government of Nepal.
- Facilitated Social Mobilization related various subjects such as Heifer Cornerstones Model : Values-based Project Planning and Management, Participatory Self-review and Planning, Personal Leadership Development to support as well as potential project partner NGOs

- Co-facilitated Gender Justice in Development Workshop to HPI Nepal Staff, and United Mission to Nepal staff.
- Mentored 6 fresh women vet graduates for six months on various aspects of community development, delivery of trainings to grassroots people, reporting, and documentation of project works.
- Farmers training on various aspects of Animal Health practices – Preventive and Curative measures
- Farmers training on various aspects of fodder and forage production and management, and feeding practices.
- Farmers training on Angora Rabbit husbandry, Swine production, Goats and Sheep production, and Buffalo production, Table fish production, Integrated duck cum fish farming, and Fish pests control.

MEMBERSHIP

- Life time member of Nepal Veterinary Association
- Member of Nepal Veterinary Council

PUBLICATIONS/PAPERS

- Animal Health Workers in Asia/South Pacific. *The Exchange*. A newsletter of Heifer International (Appropriate livestock technology for a developing world) Issue 112, July-September 2003.
- *Recent Spread & Impact of Improved Technology: experience of Heifer International Nepal*. Paper presented in Sixth National Outreach Research Workshop. NARC, Khumaltar, Lalitpur. 4 July 2002.
- An HPI PSRP manual in Nepali language 1990
- Translation of HPI CS Model Book into Nepali Language 1998
- Translated various HPI brochures into Nepali Languages 1998
- Co-author of various PAC Technical, Working, and Occasional Papers 1988-1998
- Author of various PAC Technical Bulletins in Nepali language 1987-1998
- Co-author of Rabbit Keeping Booklet, published by Livestock Section, PAC in 1989.
- Author of various articles on different aspects of Livestock Production, Management and Animal Health in Nepali language in *Sankalan* a PAC Trimester Technical Publication 1987-1998

LANGUAGES

Fluent : Nepali, English, and Hindi
 Limited : Tamang and Urdu

DRIVING LICENCE

Received on January 22, 1996 (Magh 8, 2052 BS) for driving;

- Motor cycle, Scooter, Moped
- Car, Jeep, Delivery Van

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CURRICULUM VITAE

Name : Dr. Adarsha Pradhan
Sex : Male
Marital Status : Married
Dependents No. : 4
Date of Birth : [REDACTED]
Place of Birth : [REDACTED]
Office : National Animal Science Research Institute
(NASRI), Nepal Agricultural Research Council,
Khumaltar, Nepal
Designation : Director

Academic Qualification:

Date	Degree/Training	Institution
1965	S.L.C.	Juddhodaya Public High School S.L.C. examination of His Majesty's Government of Nepal
1969	I. Sc.	Tri-Chandra College, Tribhuvan University
1976	B. V. Sc and A.H.	Rajendra Agriculture University, Patna, India
1991	M. V. Sc. (Microbiology)	Rajendra Agriculture University, Patna, India

Short Term Training/Workshop/Symposium:

Date	Type	Place
1981	Agriculture Project Analysis	Pokhara (APROSC/FAO)
1982	Post Graduate Training (Bacteriology & Serology)	DOA, Perth, Australia
1984	In Service Training	Ministry for General Administration
1987	International Training Course on Diagnosis of African Swine fever	Indian Veterinary Research Institute, Izatnagar, India
1991	Mycotoxigenology	Bhagalpur University, India
1991	Mycoplasma Infection of Man, Animals and Plants	Department of Microbiology Institute of Medical Sciences, U.P., India
1991	ZOPPS Project Planning	GTZ, Harihar Bhawan
1991	National Level Planning Workshop on Agricultural Research	
1992	Advances in Veterinary Sciences and their Impact on Animal Health and Production	Indian Veterinary Research Institute, India
1999	Training on Mycoplasma	JICA, Japan
2004	Advanced Skills for logical framework development & strategic planning	Department for international Development.

Government Service:

Date	Designation	Office
1976 (2033-5-7)	Assistant Veterinary Officer (Gazetted III)	Veterinary Hospital, Surkhet
1980 (2037-3-26)	Assistant Veterinary Officer (Gazetted III)	Veterinary Hospital, Damauli

1982 (2039-1-19)	Bacteriologist (Gazetted III)	Bacteriology and Mycology, Animal Disease Investigation And Research center, Veterinary Complex, Tripureswor
1985 to 1994 (2042-8-11)	Senior Microbiologist (Gazetted II)	Microbiology Sector Animal Health Research Division, NARC
1995 to 2003	Senior Scientist	Animal Health Research Division, NARC
2003	Director	National Animal Science Research Institute, NARC

Publications:

Scientific Paper and report:-

Date	Topics	Name of Journal/Publication
1987	Meat Industry and Abattoir	Rinderpest Vaccination Programme, Central Animal Health Centre, Tripureswor, Kathmandu
1988	Study of the Drug Sensitivity Pattern of Mastitis Milk Isolation of Cattle & Buffaloes in Kathmandu Valley	Bulletin of Veterinary Science and Animal Husbandry Nepal Vol. 16, P. 53-56
1992	Gumboro Disease an emerging threat to poultry Industry in Nepal	Poultry Munch P. 15-22
1992	Isolation of Mycoplasma from the Respiratory Tracts of Goats	Souvenir Silver Jubilee year 1967-1992 Nepal Veterinary Association
1996	Study of Mycoplasma in Poultry	Proceedings of First National Workshop on Livestock and Fisheries in Nepal, Page: 241-244
1996	Sero Surveillance of Brucellosis in cattle & Buffalo in Chitwan.	Proceedings of First National Workshop on Livestock and Fisheries in Nepal, Page: 227-231
1997	<i>Antibiotic Sensitivity Pattern of Mycoplasma Gallinarum</i> isolated from lungs of chicken in Nepal	Proceeding of II National Workshop on livestock and Fishery Research. Page: 109-111
1997	Study on <i>Salmonella Gallinarum</i> isolated from liver in chicken	Proceedings of II nd National Workshop; on Livestock and Fisheries Research. Page: 105-108
1999	Study on <i>Chronic Respiratory Disease</i> in Chicken	Proceedings of third National Workshop on livestock and Fishery Research in Nepal. Page: 126-128
1999	Study on Pathogenicity of <i>Salmonella Gallinarum</i> Isolates	Proceedings of Third National Workshop on Livestock and Fisheries Research in Nepal. Page: 130-132
2000	Study on <i>Salmonella Gallinarum GR Vaccine</i> in Chicken	Proceedings of the Fourth National Workshop on Livestock and Fisheries Research in Nepal. Page: 158-161
2003	<i>Mycoplasma gallisepticum</i> antigen for serum agglutination test in chicken.	Proceedings of the Fifth National Workshop on Livestock and Fisheries Research in Nepal. (Under publication).
2003	Status of Animal Health in Nepal & Future needs	Proceedings of the Fifth National Workshop on Livestock and Fisheries Research in Nepal. (Under publication).

Travel:

Inside the Country:

Surkhet, Dailekh, Jumla, Banke, Bardia, Kanchanpur, Kailali, Prpandehi, Kapilbastu, Nawalparasi, Rolpa, Palpa, Syangya, Kaski, Baglung, Parbat, Myagdi, Chitwan, Tanahum, Gorkha, Nuwakot, Rasuwa, Kathmandu, Bhaktapur, Lalitpur, Sindhupalchowk, Kabhrepalanchowk, Makawanpujr, Parsa, Sarlahi, Dhanusha, Saptari, Morang, Dhanakuta, Sunshari, Jhapa and Dang.

Outside the Country:

India, Australia, Singapore, Malaysia, Thailand and Japan

Extra Activities:

1992	Preparation of Recommendation for the development of B.V. Sc. & A.H. Programme at Rampur (Including Development of B.Sc. Animal Science into B.V. Sc. & A.H. Programme).
1992	Preparation of Curriculum for Condensed, Conversion and Regular B.V. Sc. & A.H. Programme of IAAS, Rampur.
2002	Development of Curriculum for B.V.Sc. & A.H. Programme, Himalayan College of Agricultural Sciences & Technology, Bhaktapur.
2003	President, Society of Agricultural Scientist . (SAS)

Member:

1977	Nepal Veterinary Association
1991	Indian Association of the Mycoplasmologist
1992	Faculty Board, Institute of Agriculture and Animal Science IAAS, Rampur, Chitwan
1992	Animal Science Subject Matter Committee (B.V. Sc. & A.H. Programme) IAAS, Rampur
1994	Indian Association for the Advancement of Veterinary Research (IAAVR).
1999	International organization for mycoplasmology. (IOM)
2000	Nepal Veterinary council.
2003	Society of Agricultural Scientist (SAS)

Award/Scholarship:

1970	Colombo Plan Scholarship For B.V. Sc. and A.H., India
1982	Post Graduate Training on Bacteriology & Serology, Australia
1987	International Training on diagnosis of African Swine Fever (APHCA/FAO), IVRI, India
1988	Colombo Plan Scholarship for M.V. Sc. (Microbiology), India

Medal:

1994

Daivi Prakop Pidotodhar Padak
(दैवी प्रकोप पीडितोद्वार पदक)

CURRICULUM VITAE

Rajiv PRADHAN

Mailing: PO Box 3549, Kathmandu, Nepal
Phone: +977 1 5-530313 (w), [REDACTED]
Fax: +977 1 5-532013
Email: rajiv.pradhan@lotusopportunities.com.np

Born October 1965 in Kathmandu, Nepal. Nepali citizen

EDUCATION:

B.E. (Mech), Aligarh Muslim University, India, 1989

Pre-University Course, Govt. College, Chandigarh, India, 1984

School Leaving Certificate, St. Xavier's School, Kathmandu, Nepal, 1982

EMPLOYMENT RECORD:

1. Lotus Opportunities, Promoter and Executive Director, April 2003 - Date

Co-conceived the idea of Lotus Opportunities, arising out of the need to better focus on products and services. Lotus Holdings was offering various services that included provision of business services, including investments, incubation and other consulting services, but needing to brand ourselves better in the market show that our image of an enterprise development company came across, this company was brought into existence, working solely as a facilitator in the enterprise development including the micro enterprises sector.

Planning and directing the growth of the organization.

2. Lotus Holdings, Promoter & CEO, July, 1997 - Date

Conceived the idea of a holding company (a company that would invest into other companies and also provide support service) that aimed to be a backstopping instrument for entrepreneurs

Designed the working strategies for the company, Involved in the day-to-day business of the company, Ensuring proper management and transparency in the company and its 13 associates, Guidance to associate export companies.

We have approximately 500 employees in total in the associates. Maintaining the constancy of the purpose of promoting socially responsible entrepreneurs including the capacity building of other entrepreneurs in providing support services to businesses in all levels, including the micro enterprises level.

3. Everest Net, Advisor, August 2002 – Date

Everest Net (enet) is a leading ISP in Nepal and advise the CEO and the company on the running of the company. A lot of advise is concentrated on the financials and the projections.

4. Botanical Enterprises P Ltd, Director, 1991 - 1997

Designed the working system in the tissue culture factory, Sought the market for the company, Supervised the production work of the company, Handed over the day-to-day work. The only company till date exporting tissue culture plants from Nepal.

TRAINING/SEMINAR/WORKSHOP:

1. 1ST International Workshop on Technology Business Incubators (ITBI), Bangalore (Jan 29-31, 2001)

- Participated 1st ITBI conference to gain more knowledge on incubators and to know the people involved in the field of incubators.

2. Business Sector Round Table (BSRT) programme, Brussels (May 14 – 20, 2001)

- Presentation of Lotus Holdings as a case study in BSRT organized by International Trade Center (ITC) as a parallel event of Least Developed Countries (LDCs).

3. TIPS/WINNER program (July 30, November 28, and December 14 2001)

- Participated as a resource person to deliver information to women entrepreneurs on the use of support services in organizations and the part Lotus Holdings is playing in providing support services to companies.

4. Observer in Micro Enterprises Development Program (MEDEP) (September 27-29, 2001)

- Attended Regional Workshop on Micro Enterprises Development as an observer and prepared internal report on the MEDEP program

5. Gave an 'An Outsiders Insight of Elam', to a business development program of Helvetas (July 9 to 17, 2002)

- Observed the entrepreneurs in the program in Birgunj, a bordering town of Nepal and gave recommendations

6. Workshop facilitator and advisor on 'Practical Insights of Business Development Services' (July 18, 2002)

- This was the first formal event in Nepal on BDS and Lotus Holdings brought together the actors in the field and discussed the problems and the roles of various actors and the road ahead. Altogether 92 people participated in the event.
7. Participated in the SEEP training 'State of the Art in Business Development Services for Micro, Small and Medium Enterprises: Principles, Tools and Practices' (July 22-27, 2002), Washington DC, US
 - This was a training that helped practitioners learn about the state of the art approaches in BDS
 8. Presentation in 'The United Nations Global Compact and Swiss Business' (October 29, 2002), Geneva, Switzerland
 - This was an event to launch Global Compact in Switzerland and presented the paper on Promoting Socially Responsible Entrepreneurs in the Forum of Changing Business to Change the World: How can business become and active agent of development.
 9. Participation in South Asian Alliance for Responsible Business (SARB) (November 14-15, 2003), Dhaka, Bangladesh
 - As the alliance for Responsible Business is on the brink of being formed, have actively contributed to the formation through Lotus Holdings.
 10. Participated in the Training of Trainers on 'State of the Art on BDS' July 9-13, 2003, USA
 - This was a follow up of the BDS training in 2002 and was primarily trained to be a global trainer.

OTHER ACTIVITIES:

- 1982 - 1987 Active in social service work with Godavari Alumni Association, Nepal
- 1994 - 1997 Founder and General Secretary, Floriculture Association Nepal, Nepal
- 2001 Nominated as a committee member of Employment Council of Lalitpur Chamber of Commerce and Industry (LCCI) in October 3, 2001.
- 2001 Nominated as a committee member of Human Resources Development of Federation of Nepalese Chamber of Commerce and Industry (FNCCI) in December 2001
- 2002- Secretary, Godavari Alumni Association

CURRICULUM VITAE

NAME: ASH KUMAR RAI
DATE OF BIRTH: [REDACTED]
SEX: Male
NATIONALITY: Nepali
MARITAL STATUS: Married and two daughters
ADDRESS: [REDACTED]

CONTACT PHONE: [REDACTED] 560155/560563 (Off), FAX: 977-1-560156

EXPERTISE: Aquaculture farm management- pond fish culture, integrated fish farming system, cage fish culture and coldwater fish culture-rainbow trout culture, breeding and feed management, limnology, project formulation for aquaculture development.

EDUCATION:

- M.Sc. 1972-1974, Zoology (Fish & Fishery), Tri-bhuvan University, Nepal.
- M.Sc. 1985-1987, Fishery, Auburn University, Al., USA.
- Ph. D. 2000, Limnological characteristic of lakes with cage fish culture, Kyoto Univ., Japan.

TRAINING:

- Aquaculture-Integrated Fish Farming System, Wuxi, Republic of China.
- General Administration, Kathmandu, Nepal.
- Limnology, Alabama. USA.
- Use of Computer, Nepal Agricultural Research Council, Nepal.
- Resource Survey, Kyoto University, Center for Ecological Research Centre, Kyoto, Japan.
- General Management Training Program, Nepal Administrative Staff College, Lalitpur, Nepal.

DESIGNATION AND WORK EXPERIENCES:

1996-1997 and 2000- to date: Chief, Fisheries Research Division, NARC, Nepal.

Responsibilities:

- Overall mgt., planning and implementation of National Fisheries Research/Development Program
- Supervise on research works, pond fish culture, integrated fish culture, cage fish culture, pen culture (enclosure), rice fish culture, coldwater fish culture (rainbow trout), lake/reservoir fishery management, low cost and proper feed development from local ingredients
- Monitor water quality in the fish ponds and lakes/reservoirs
- Provide outreach technical services to public and private fishery activities
- Coordinate with national and international organizations/institutions for fisheries programs
- Organize national and international workshop/seminars on fisheries program

1998- 1999: Visiting professor in Kyoto University, Japan.

Responsibilities:

- Water quality and plankton analysis
- Management of cage fish culture of in the lakes/reservoirs
- Data analysis and papers publication in journal
- Conduct seminar on limnological characteristic of lakes with cage fish culture

1991-1996: Project Chief, Natural Water Fisheries Dev. Project (assisted by JICA), Pokhara, Nepal.

Responsibilities:

- Overall management of the project, conduct and supervise research works on fish production enhancement in cage fish culture, pen culture (enclosure), rice fish culture, pond fish culture, lake/reservoir fishery management
- Water quality monitoring in fish ponds and lakes/reservoirs
- Supervision & monitoring in public and private fisheries activities in the project area
- Coordination with national & international organizations in fisheries activities of the project
- Organize training program, workshop/seminar on fisheries activities
- Publish periodical reports of the project

1990-1991: Chief, Fisheries Research Center, Trisuli, Nepal

1988-1990: Project Leader, Inland Fisheries Project, Kulekhani (Assisted by IDRC).

Responsibilities:

- Overall management of the project, planning and implementation of the project activities
- 1976-'77, 1978-'84 & 1987-'88: Desk Officer, Fisheries Dev. Div., Dept. of Agr., Nepal.

Responsibilities:

- Assist in program planning and monitoring for National Fisheries Dev. Program of Nepal.
 - Provide technical support to Govt farms & private sectors in pond fish management, fingerlings production, pond fish culture including integrated fish farming and cage fish culture activities
 - Assist in organizing training programs, provide lectures in fish farming system
 - Assist in identification and economic study of indigenous & exotic fish spp.
 - Survey and carryout feasibility studies on fish production activities, prepare annual report
- 1985-'87: Study for M.Sc.(Fishery) in USA

1984-'85: Asst. Project Leader, Inland Fisheries Project, Kulekhani, Nepal

Responsibilities:

- Assist in planning, programming and implementation of the project activities
- Reservoir fishery management including cage fish culture in the reservoir
- Water quality & plankton monitoring in reservoir, prepare annual report and periodic reports
- Training Coordinator, for Bhutanese Technicians under UNDP/FAO program.

1977-'78: Fish Farm In charge of Center Hatchery Balaju.

1975-76: Asst. Wild Life Officer, Royal Chitwan National Park, Chitwan, Nepal.

PUBLICATIONS AND REPORTS:

Rai, A.K., 2003. Potential of indigenous Riverine fish species in Nepal.

Rai, A.K., N.P. Shrestha and D.M. Singha 2002. Impact of fisheries technology; a scope for future investment. National workshop on outreach (July 4-5, 2002), Kathmandu, Nepal.

Rai, A.K., T. B. Gurung and J. D. Bista 2002: Use of natural water resources for cage fish culture in the Hilly region of Nepal. Paper presented in International Seminar on mountain (6-8 March, 2002), Kathmandu, Nepal.

Rai, A.K., S.R. Basnet, A.P. Nepal, R.M. Mulmi and N.K. Roy 2002: Potential of Asla and trout culture for the economic enhancement of the people in the Hilly region of Nepal. Paper presented in International Seminar on mountain (6-8 March, 2002), Kathmandu, Nepal.

Rai, A.K., B.R. Pradhan, S.R. Basnet 2000: Present Status of Snow trout in Nepal. Paper presented in Trans-Himalayan Fisheries Workshop (10-13 July 2000), Kathmandu, Nepal.

Rai, A.K. 2000: Limnological characteristics of subtropical lakes Phewa, Begnas, and Rupa in Pokhara valley, Nepal. Jpn J Limnol 1:33-46.

Rai, A.K. 2000: Evaluation of natural food for planktivorous fish in lakes Phewa, Begnas, and Rupa in Pokhara valley, Nepal. Jpn j Limnol 1:81-89.

Rai, A.K. 1999: Limnological characteristics and food evaluation of planktivorous caged fish species in sub-tropical lakes Phewa, Begnas and Rupa of Pokhara Valley, Nepal. A Thesis submitted to the requirements for Ph.D. 61 pp.

Rai, A.K. 1998: Trophic status of Phewa, Begnas and Rupa Lakes in Pokhara Valley, Nepal: past, present and future of Lake Science. 10:181-201.

Rai, A.K., A.K. Rana and K.R. Bastola 1997: Comparative Growth Study of Indigenous Fish Sp. Mahseer, Katle & Asala Fed with Local Feed Ingredients. Nepal Agr. Res. Jr. 1:57-61.

Bajracharya, K., S.P. Manandhar, A.P. Sharma, B.R. Pradhan and A.K. Rai 1997. Study of Bacterial Relationship between Fish Intestine and Environment. 3rd Livestock/Fish. Workshop, Kath., Nepal.

Shrestha, P.M., R.P. Adhikari and A.K. Rai 1997. Water Quality Analysis of Pond Water and Interaction between Coliform and its Aquatic Environment. Livestock and Fisheries Workshop, Kath., Nepal.

Shrivastav, K.K. and A.K. Rai 1997. Successful Artificial Induced Spawning of Magur, *Clarias Batrachus* in Nepal. Livestock and Fisheries Workshop, Kathmandu, Nepal.

Shrestha, P.M., R.P. Adhikari and A.K. Rai 1997. Relation of Bacterial Flora of Freshwater Grass Carp *Ctenopharyngodon idella* and its Environments. Third Livestock/Fisheries Workshop. Livestock and Fisheries Workshop, Kathmandu, Nepal.

Rai, A.K. and J.D. Bista 1994. Fry Rearing of Mahseer, *Tor Puttitora*, on Different Diets. Proc.of the Fifth Asian Fish Nutrition Workshop (Edited by S.S. De Silva).125-127.

Rai, A.K., B.R. Pradhan and M. Wada 1996: Rice-Fish Culture in Kaski District, Pokhara. Proc of First Nat. Liv./Fish. Res.Workshop. 292-297.

Rai, A.K. and R.M. Mulmi 1996: Karange, *Puntius chilinoides* a cold water cyprinid from Kulekhani Reservoir, Nepal. J. Nat. Hist. Mus. 15:49-54.

Rai, A.K. and T. Yamazaki 1995: Aquaculture Practices in the Lakes Phewa, Begnas and Rupa in Pokhara Valley, Nepal. A paper presented in Fourth Asian Fisheries Forum Beijing, China (October 16-20, 1995)

- Rai, A.K., B.C. Shrestha, P.L. Joshi, T.B. Gurung and M. Nakanishi 1994: Bathymetric Maps of Lakes Phewa, Begnas & Rupa in Pokhara valley. Mem. Fac. Sci. Kyoto Univ. (Ser. Biol.), 16.
- Rai, A.K. and J.D. Bista 1994. Fry Rearing of Mahseer, *Tor putitora*, on Different Diets. Proc. of the Fifth Asian Fish Nutrition Workshop (Edited by S.S. De Silva). 125-127.
- Rai, A.K. and R.M. Mulmi 1992: Observation of Planktivorous Fish Species in Floating Cages in Indrasarobar Reservoir. J. Nat. Hist. Mus. 13(1-4):3-8.
- Rai, A.K. and T. Toshida 1992: Larval Rearing of Mahseer (*Tor putitora*) fed with different feed ingredients. A paper submitted in Third Asian Fisheries Forum (26-30 Oct. 1992), Singapore.
- Rai, A.K., B.R. Pradhan, D.B. Swar and B.C. Shrestha 1992: Post-impoundment changes in the fish population of Indrasarobar reservoir, Nepal. A paper submitted in Third Asian Fisheries Forum (26-30 Oct. 1992), Singapore.
- Bayne, D.R., A.K. Rai, P.L. Joshi and J.C. Williams 1992: Limnological Factors Influencing Growth of Cage Cultured Bighead carp X Silver Carp X Hybrids. Journal of Applied Aquaculture 1(4):29-50.
- Bayne, D.R., P.L. Joshi, A.K. Rai and J.C. William 1991: Growth and Food Habits of Cage-Cultured Bighead Carp X Silver Carp Hybrids in Ponds of Varying Trophic Status. Journal of Applied Aquaculture, 1(1):45-55.
- Rai, A.K. 1990: Artificial propagation and studies on food habits and growth of young katile *A. hexagonolepis* (McClelland) on different dietary protein levels. A paper submitted for Fourth Asian Fish Nutrition Workshop (3-7 Sept. 1990), Vijaywada, Andra Pradesh, India.
- Shrestha, B.C., A.K. Rai, T.B. Gurung and T. Mori 1989: Successful Artificial Induced Spawning of Himalayan Mahseer (*Tor putitora* Hamilton) in Pokhara Valley, Nepal. The Second Asian Fisheries Forum. The Asian Fisheries Society Manila, Philippines. 573-575.
- Rai, A.K. and D.B. Swar 1988: A cold water Cyprinid, Katile *Acrossocheilus hexagonolepis* in Nepal. FAO, Fisheries Report. 405:95-99.
- Rai, A.K. 1988: Effects of Water Quality and Zooplankton Communities on Growth of Hybrid Carp (Bighead carp *Aristichthys nobilis* X Silver carp *Hypophthalmichthys molitrix*) in Cages. A Thesis submitted to the requirements for the Degree of the Science. 51 pp.
- Karki, K.B. and A.K. Rai 1982: Observations on the Effectiveness of Some Local Plants Used as Fish Poison. Proc. of First National Sc. and Tech. Cong. Kirtipur, Kath., Nepal. 2:270-274.
- Rai, A.K. 1982: Pituitary Gland (Hypophysis) and its Role for Induce Breeding in Cultivable Fishes. Proc. of First National Sc. and Tech. Cong. Kirtipur, Kathmandu, Nepal. 2:265-268.
- Rai, A.K. 1978: Artificial breeding of Katile *Acrossocheilus hexagonolepis*. Journal of Nat. Hist. Mus. Nepal. 2(1):45-50.

Experts:

- Fisheries expert (Trout fish culture) in Chengmai, Thailand.
- Fisheries expert supported by JICA (Chinese carp culture) in Papua New Guinea.
- Aquatic Ecologist for Ecological Studies and Impact Assessment around the West Seti-electric Project, Nepal conducted by SMEC LTD CAN 065 475 149.

PARTICIPATED IN INTERNATIONAL WORKSHOP:

- 2002: International seminar on the mountain year (6-8, March 2002), Kathmandu, Nepal.
- 2001: Trans-Himalayan fisheries workshop (10-13, March 2000), Kathmandu, Nepal.
- 1997: International Symposium on A New Strategy for Water Environmental Research, 1997 (ANSWER'97) (July 20-25 '97), Wuxi, China.
- 1995: Fourth Asian Fisheries Forum (16-20 Oct. 1995), Beijing, People Republic of China.
- 1993: Fifth Asian Fish Nutrition Workshop (January 1993), Udanthani Bangkok, Thailand.
- 1992: Third Asian Fisheries Forum (26-30 Oct. 1992), Singapore. -1992: Workshop in Human Resources Development in Fisheries Research (1-3 April 1992), Kathmandu, Nepal.
- 1990: Fourth Asian Fish Nutrition Workshop (3-7 Sept 1990), Vijayawada, Andrapradesh, India.
- 1989: The Second Asian Fisheries Forum (17-22 April 1989), Tokyo, Japan.
- 1988: IPFC, Workshop (8-14 Sept 1988), Kathmandu, Nepal.

MEMBER OF THE SOCIETY:

- Japan Limnological Society
- Asian Fisheries Society
- Nepal Fisheries Society
- Society of Agricultural Scientists, Nepal (SAS)
- Nepal Limnological Society
- Nepal Agricultural Association

CURRICULUM VITAE

NAME: Krishna Prasad Sharma
ADDRESS: Battisputali -9, Kathmandu.
Ph.no: 977-1-4493912
9810-47962
E-mail: krishna.sharma@rbb.com.np

DATE OF BIRTH: [REDACTED]

EDUCATION:

- Master in Sociology/Anthropology Tribhuvan University, Nepal.
- Bachelor in Agriculture Science. Tribhuvan University, Nepal.
- PG Diploma in Bank Management (Professional Degree) AIIMS, India.
- Master in Quality Management (Running) Sikkim Manipal University, India.
- Master in Economics (Last term) Tribhuvan University, Nepal.

DESIGNATION: Chief Officer (Act.) Rastriya Banijya Bank.

TRAINING:

- "Intermediate Risk for Bankers" Citi Bank, 2003.
- "Retail Banking and Asset Liability Management", ICCI Bank, India 2003.
- "Management Development Program for Officer/Executives of co-operative, Agri Banking & Rural Development Institutions" organized by CICTAB, Srilanka, 1996.
- Six months Training on "Diploma in computer Technology" Organized by National Computer Center, Kathmandu.
- Six months Training on "Credit & Recovery Management" Organized by Booz Allen & Hamilton, 1992.
- Two weeks training on "Trainer's Training" organized by Nepal Rastra Bank, Kathmandu, Nepal, 1990.
- Two weeks training on "Priority Sector Credit" (Refresher) organized by Nepal Rastra Bank, Nepal 1989.
- One month training on "Agriculture Project planning" organized by FAO/APROSC Nepal 1988.
- One month training on "Priority Sector Credit program" organized by Nepal Rastra Bank, Nepal, 1984.

AFFILIATION:

- Board Director: Far-western Regional Rural Development Bank, Dhangadi, Nepal, 2002 onwards.
- Board Director: Eastern Regional Rural Development Bank, Biratnagar, Nepal 2001 onwards.

- Vice president: **Grameen Foundation Nepal** "An organization exclusively deprived Women, 1994 onwards.
- Treasurer: **Maharishi Vedic Science & Technology Institute Nepal** 1999 onwards.
- Director: **Sushma Koirala Memorial Trust** 2000 onward.
- Vice president: **Bhuvaneshwori Niji Guthi (Trust)**, Parbat, 2001.
- Executive Member: **Micro Enterprise Development Center** 2001
- Executive Member: **Labor Welfare Society** 2002.
- Executive Member: **Nepal-Finland Economic and Cultural Society** 2003.

PAST EXPERIENCES:

- Board Director: **Rural Development Bank, Nepalgunj** 1995-2000.
- Board Director: **Credit Guarantee & Deposit Insurance Corporation** 2000-2001.
- Board Director: **Citi Finance Ltd** 1994-1997.

SEMINARS:

- "**Non-Residents Nepalese Conference**", Kathmandu 2003.
- "**The power of information in a world without boundries**" Organized by Dun & Bradstreet, India 2002.
- Microserv Workshop on "**Integration of Credit with Rural & Agricultural Support Services in Nepal**"-organized by APRACA-IFAD -1999".
- Seminar on "**Commercial Agriculture**" organized by APRACA in Hyderabad India 1998.
- Meeting of Council "**Micro Credit Champaign Summit**" in New York USA 1999.
- Coordinator: **International MICROSERV (Micro Credit) field visit program** in Nepal organized by APRACA Thailand, 1998.
- Regional study of "**Institutional readiness of self help group in having access to Credit; status of group based finance**" in South Asia Organized by APRACA Thailand, 1997.
- Worked with Booz-Allen & Hamilton Singapore as a counter part of R.B.Bank on "**Commercial Banks Problems Analysis & Strategy Study Team**" for Six month, 1992.
- Worked as a team member on "**Sick Industry Problem Analysis & Re-Establishment team**" for six months 1992.
- Seminar as "**Agro Industrial Credit Facilities Problem & Issue in SEACEN Countries**" Kualalampur, Malaysia -1989.
- Attained dozen of other different national seminar on "**Rural Credit, Women Development & Small Business**".

STUDY TOURS:

- Three week study tour program on "**Rural Banking**" organized by USAID, held in Malaysia, Indonesia & Philippines, 1995.
- One-week study tour program on "**Micro Credit Activities in Bangladesh**" Organized by CECI Nepal - 1999.
- One week study tour program on "**Role of Self Help Group**" in India Organized by APRACA, 1999.

WORK EXPERIENCE AT RASTRIYA BANIJYA BANK:

2003 Onwards	: Department Chief Branch Operation Department
2002- 2003	: Department Chief Loan Recovery Department Central Office
2000-2002	: Regional Manager Regional Office Biratnagar.
1998-2000	: Department Chief Priority Sector Credit Department Central Office
1993-1998	: Joint Chief Officer Office of the Executive Chairman. Central Office
1992-1993	: Deputy Chief Officer Loan Recovery Department Central Office
1991-1992	: Deputy Chief Officer Priority Sector Credit Department, Central Office..
1989-1991	: Deputy Chief Officer Eastern Regional Office, Biratnagar.
1984-1989	: Agriculture Officer Western Regional Office, Pokhara.

PAST EXPERIENCE:

- High School Teacher (Agriculture)
- Assistant Soil Scientist, HMG, Nepal.

COUNTRY VISITED:

- USA, Germany, Srilanka, Hongkong, Singapore, Philippines, Indonesia, Malaysia, Thailand, India, Bangladesh.

Curriculum Vitae

March, 2004

Name David Michael Sherman

Profession Veterinarian

Place Of Birth [REDACTED]

Present Position and Business Address Dr. David M. Sherman, Director
Division of Animal Health, Biosecurity and Dairy Services
Massachusetts Department of Agricultural Resources
251 Causeway Street, Suite 500
Boston, MA 02114-2151
David.Sherman@state.ma.us
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Education and Specialty Certification

1972	B.A.	Antioch College, Yellow Springs, Ohio
1977	DVM	Ohio State University, Columbus, Ohio
1979	MS (Vet Med)	University of Minnesota, St. Paul, MN
1987	Continuing Education in Epidemiology	Summer Graduate Program University of Minnesota School of Public Health Minneapolis, MN
1990	Diplomate	American College of Veterinary Internal Medicine

Employment History

2000 - present	Director, Division of Animal Health, Biosecurity and Dairy Services, Department of Agricultural Resources, Commonwealth of Massachusetts.
1998 - 2000	International Veterinary Consultant, Author, and Editor
1995-1998	Section Head, Section of International Veterinary Medicine, Department of Medicine, Tufts University School of Veterinary Medicine, No. Grafton, MA
1990-1998	Associate Professor, Section of International Veterinary Medicine, Department of Medicine, Tufts University School of Veterinary Medicine, No. Grafton, MA
1987-1990	Associate Professor, Large Animal Medicine Section, Department of Medicine, Tufts University School of Veterinary Medicine
1980-1987	Assistant and Associate Professor, Department of Large Animal Clinical Sciences, University of Minnesota, College of Veterinary Medicine

Relevant Professional Experience

2000 to date	Director, Division of Animal Health, Biosecurity and Dairy Services, Department of
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Agricultural Resources, Commonwealth of Massachusetts. Senior position responsible for regulatory veterinary medicine and animal disease control in the Commonwealth. Supervision of 10 office staff and 10 field staff. Oversight of regulatory activities such as animal testing, disease investigation, permitting, licensing and inspection. Policy development and promulgation of relevant statutes and regulations. Emergency disease response planning and implementation. Public communication on matters of animal health. Interaction with producer groups and industry on implications of Bureau policies and practices. Management of cooperative federal grants for animal disease control and counter-bioterrorism programs.

- 2000 Mercy Corps International (MCI), Gobi Regional Economic Growth Initiative, Mongolia. Served as veterinary consultant to identify opportunities for improving animal health and productivity through improved veterinary service delivery in project areas. The Gobi Initiative is a USAID-funded project managed by MCI that is designed to assist the people of Mongolia's Gobi region to achieve and sustain market-led economic growth and development. Ulaan Baatar, Mongolia, June, 2000.
- 2000 to date Editor-in-Chief, Small Ruminant Research Journal, the international, peer-reviewed, scientific journal of the International Goat Association published by Elsevier Science. Overall responsibility for the editorial review process of the journal which receives over 200 manuscripts a year for consideration of publication.
- 1999 Dutch Committee for Afghanistan (DCA). Served as Chairman and Facilitator for a workshop on the role of paraveterinarians in the future veterinary infrastructure of Afghanistan. Workshop participants included representatives of the FAO, various NGOs and the Taliban government of Afghanistan. Peshawar, Pakistan, March, 1999.
- 1997 World Conservation Union (IUCN), Conservation Breeding Specialist Group. Chaired and Facilitated the Health Section of the Mountain Gorilla Population and Habitat Viability Assessment Workshop held in Kampala, Uganda, 8-12 December, 1997.
- 1997 Farm Africa UK, Meru, Kenya. Provided training to local staff of the NGO, Farm Africa-UK and to Kenya government veterinarians on goat health and production in support of the Farm Africa's Dairy Goat and Animal Health Care Project in Kenya.
- 1996 - 1998 Food and Agriculture Organization of the United Nations (FAO). Served as Consulting Veterinary Diagnostician and Team Leader (3 missions) on TCP/ETH/4558, Control of Sheep and Goat Skin Diseases for Improved Quality of Hides and Skins, Addis Ababa, Ethiopia. Designed and implemented field studies in association with Ethiopian veterinarians to identify the cause of an unexplained skin disease causing severe economic loss to the tanning industry.
- 1995-1998 Tufts University. Administrator, Program in International Veterinary Medicine. Duties included administrative oversight of Section; management of Section activities; teaching of the course *International Veterinary Medicine*, advising students on international field research and development activities including proposal preparation and publication and thesis preparation; short term consultation on livestock health and development issues; development of new initiatives and project proposals for Tufts University participation in international development and conservation medicine programs; scholarly activities relating to issues in international development concerning domestic and wild animals in relation to agriculture, environment and society.
- 1995 Forte Cashmere Company, Woonsocket, R.I. Consultant. Assisted in the development of

a raw cashmere supply network in southwestern Afghanistan for export markets.

- 1993 - 1994 United Nations Development Programme (UNDP), Quetta, Pakistan. Programme Veterinarian for the UNDP animal health program in Southwestern Afghanistan. This was a community based animal health network of district-based veterinary field units staffed by veterinarians, paraveterinarians, and livestock owners trained as Basic Veterinary Workers. Responsibilities included program administration and the development of curriculum and training programs to provide suitable and sufficient personnel at all professional levels to support the project activities.
- 1992 - 1993 Mercy Corps International, Quetta, Pakistan. Seconded to MCI from Tufts University as Technical Coordinator of the Private Sector Animal Health Initiative for Southwestern Afghanistan, a project funded by O/USAID/Rep Afghanistan. This cross-border program was designed to produce a network of community based animal health workers in Kandahar, Helmand and Urozgan provinces of Afghanistan.
- 1980-1987 University of Minnesota. Veterinary Educator. Duties included classroom teaching in ruminant medicine, clinical teaching and service in the Large Animal Medicine Section of the Veterinary Teaching Hospital; field and laboratory research in enteric disease of ruminants; various administrative and committee functions.

Graduate students trained: Over 25 veterinary or Master's of Veterinary Science students

Selected Publications

Books

1. Sherman, D.M.: Tending Animals in the Global Village: A Guide to International Veterinary Medicine, Lippincott, Williams and Wilkins, Baltimore, 512 pp., 2002.
2. Smith, M.C. and Sherman, D.M.: Goat Medicine. Lippincott, Williams & Wilkins, Baltimore, 620 pp., 1994.

Peer-Reviewed Papers (from over 25)

1. Sherman, D.M., Pokras, M., and English, A.W.: Preparing Veterinarians for Meaningful Participation in Wildlife Conservation, *Journal of Veterinary Medical Education*, 26(1):26-29, 1999.
2. Pokras M., Tabor, G., Pearl, M., Sherman, D., and Epstein, P.: Conservation Medicine: an Emerging Field. In, *Nature and Human Society: the Quest for a Sustainable World*. National Academy Press. Washington, DC. pp: 551-556, 1999.
3. Jost, C.C., Sherman, D.M., Thomson, E.F., and Hesselton, R.M.: Kamala (*Mallotus philippinensis*) fruit is ineffective as an anthelmintic against gastrointestinal nematodes in goats indigenous to Balochistan Pakistan, *Small Ruminant Research*. 20:147-153, 1996.
4. Davis, D. K., Quraishi, K., Sherman, D.M., Sollod, A.E., and Stem, E.S.: Ethnoveterinary medicine in Afghanistan: An overview of indigenous animal health care among Pashtu Koochi nomads. *Journal of Arid Environments*, 31:483-500, 1995.
5. O'Brien, J.P., Sherman, D.M: Serum immunoglobulin concentrations of newborn goat kids and subsequent kid survival through weaning. *Small Ruminant Research*, 11:71-77, 1993.
6. O'Brien, J.P., Sherman, D.M.: Field methods for estimating serum immunoglobulin concentrations in newborn kids. *Small Ruminant Research*, 11:79-84, 1993.

Babita Shrestha

Post Box No. 6043, Imadol, Lalitpur, Nepal

Work phone: 977-1-5532554/5544841

babita@hpinepal.org.np

PROFESSIONAL POSITIONS

July 2000- **Heifer Project International, Nepal**

Present *Program Officer*

- Investigate/Review new project proposals, visiting the sites to make recommendation to CD and to work out plans for passing on the gifts in Heifer's project areas.
- Facilitate training programs of Partner Organizations and assist them in implementation of farmers' field trips, exchange visit, study tours etc.
- Monitor & evaluate the effectiveness of the HPIN projects and guide Partner Organizations to increase their effectiveness.
- Assist Partner Organization of the HPIN with the local purchase of livestock, where appropriate.
- Review and follow up of Project Progress and Financial Reports of HPIN projects.
- Review and coordinate with respective program coordinator for the Project Progress and Financial Reports of Umbrella projects.
- Assist Country Director in preparation of HPIN budget for projects.
- Annual report preparation of HPIN program.
- Assist in preparation of Quarterly reports of HPIN.
- Coordinate with Gender Consultant, maintain filing and represent HPIN on gender programs.
- Financial Administration of HPIN Projects.
- Develop program manual and regularly update it.
- Regularly maintain database of projects data.
- Coordinate with Financial Officer for capacity building HPIN Projects partner on book keeping.
- Mentor fresh graduate in Mentoring Program.
- Implement your role as team motivator.
- Assist HPIN Country Director in other program related activities as assigned.

December 1999-**Heifer Project International, Nepal**

June 2000 *Finance Officer*

Ensure the smooth operation of the HPIN finance department.

August 1998- **Heifer Project International, Nepal**

Dec1999 *Office Secretary (Administrative/Finance)*

Overall administration of the office and handling financial task.

Sept. 97- **Sachal Engineering works Pvt. Ltd**

March 98 *Administration Officers*

Administrative assistance to the company and liaison with other government offices for the smooth operation of the company.

Sept 1996- **Sachal Engineering works Pvt. Ltd**

Sept 1997 *Office Secretary*

Secretarial services to the company.

ACADEMIC QUALIFICATION

1998-2001 **Shanker Dev Campus, Tribhuvan University, Kathmandu, Nepal**

Master in Business Administration with major in Finance- Assets management and Capital Structure.

- 1994-1997 **Shanker Dev Campus, Tribhuvan University, Kathmandu, Nepal**
Bachelor in Business Administration with major in Finance
- 1991-1993 **St. Xavier college, Maitighar-Kathmandu, Nepal**
Intermediate in Science with major in physics, mathematics, and chemistry

TRAINING COURSES CONDUCTED

- Feb 17-19, 04 *Log Frame Analysis training*
Conduct/Facilitated Log Frame training for three days to 14 Heifer Project International-Nepal in Nagarkot, Kavre followed by field testing at grass-roots in Chitwan.
- June 2002 *Personal Leadership Development/Attitude Development/Positive Thinking.*
Conduct/ co-facilitated personal leadership development training for two days to 20 village animal health workers in Chitwan.
- June 2002 *Heifer Project International Cornerstone for just a Sustainable Development*
Conduct/co-facilitated Heifer Project Cornerstone training for just a sustainable development to village animal health worker in Chitwan.
- May 2002 *A workshop to find vision/mission and goal setting of our project partners*
Facilitated a one day workshop to help seven project partner in finding their mission, vision and goal.
- March 2002 *Accountability Workshop, Nagarkot, Kathmandu*
Co-facilitated/conducted two days financial accountability workshop to Heifer Project Nepal's project partners to make them understand HPI-N rules and regulation.
- August 2001 *Asia South Pacific Financial Accountability Meeting, Cantho, Vietnam*
Co-facilitated the financial accountability meeting. Helped each country program (including 8 countries) to share financial accountability systems/practices and experiences with other A/SP and Headquarters Office. Co-facilitated to formulate new financial management related policies and procedures.

TRAINING COURSES ATTENDED

- Jan 23-Feb 5, 04 *Log Frame Planning Workshop organized by Heifer Project International, USA*
The workshop was to develop proposal on log frame matrix.
- Dec 16-20, 2002 Heifer Project International, Los Angeles
To develop relation with Heifer donor and Heifer LA offices
- Dec 9-14, 2002 *Gender Equity Consultation, Mexico organized by Heifer Project international*
The workshop was to share gender works that all country programs are doing in Heifer Project International and revisiting the vision of gender equity and thereby defining it. The workshop also helped to review and revise synthesized guidelines and plans for the future gender equity program in Heifer.
- Dec 5-8, 2002 Presentation at Church in Davis, California on Heifer Nepal works regarding women empowerment. It was highly appreciated.
- November 14-16 *4th Strategic Planning Workshop, Nagarkot, Nepal*
2002 Contributed in formulation of HPI-Nepal strategic planning
- 27-29 March 2002 *Project Partners Meeting, Nagarkot, Nepal*
Learned and shared field level policy related issues and problems.

- 11-13 Jan. *Project Partners Meeting and Cornerstone Model Workshop*, Saurah, Chitwan 2001
Helped project partners in the problem faced in field.
- 16-19 June 2000 *3rd Strategic Planning Workshop*, Nagarkot, Nepal
Participate in 2nd Strategic planning workshop and developed HPI-N strategy for one year.
- March-May 2000 PATH (Partners in Administrative training in Headquarter), USA
Attended a training in Heifer International-Arkansas for nearly three months. The training was focused on learning by doing. During training, I went to Chicago, San-Diego, Minnisota, Boston, St. Louise for presenting Heifer Project Nepal works in various Church. This has built my confidence in communication.
- Dec 1999 *Gender Equity training, Jawalakhel, Lalitpur, Nepal*
Attended five days training on gender equity which helped me to elaborate my knowledge on gender concept.
- June 1999 *Asia South Pacific Financial Management Training, Chengmai, Bangkok for 1 week*
The workshop was designed to share the A/SP, Headquarter-Arkansas's accountability system and helping each country program to develop their financial policy, procedure.
- June 1999 *2nd Strategic Planning Workshop, Nagarkot, Nepal*
Participated in Heifer Project International
- March 1999 *1st Asia South Pacific Support Staff Workshop, Cagayan De'oro, Philippines*
This workshop was designed for a week, five days learning session and two days field visit. Learned how HPI A/SP countries work to alleviate hunger and poverty around the world, discussed the problem faced and sharing the best practices.
- Jan 1999 *Heifer Project International Cornerstone workshop for just a sustainable development*
Attend five days training on HPI Cornerstone for just a sustainable development to under the root cause of hunger and poverty and learned to develop a project in HPI model.

LEADERSHIP

- Jan27-Feb 18 2002 Served Heifer Project International-Nepal office as an acting country director for 22 days
- Jan 14-22, 03 Served Heifer Project International-Nepal as an acting country director for one week.
- 8 Feb till to date Took Heifer Project International-Nepal CD's responsibility of Financial Administration in HPI Nepal during his absence interim A/SP director.

LANGUAGES

Proficient in reading/writing/speaking, and translating Nepali, Hindi and English.

COMPUTER SKILLS

DOS, Windows 95/98, Word Perfect, and Excel, PowerPoint Presentations, Email and Internet.

OTHER SKILLS

Photocopier, Scanner, Digital Camera and Movie Camera, Driving small vehicles-Motorbikes.

RESUME

Name Family Name First Name Middle Name
Shrestha Hari
Date of Birth :
Nationality : Nepali
Sex : Male
Residence :
Email:

EDUCATION

University	Year	Degree
<i>School of Agriculture, Aberdeen University Scotland, U.K</i>	1978	<i>Master of Science, (Animal Production) Scotland (U.K).</i>
Udaipur University Rajasthan, India	1970	B.Sc. Agriculture Major : Livestock

TRAINING

18 June- 26 July, 1984 - "Small Holder Buffalo Production System" UPLB, Philippines, Organized by FAO
11-16 June, 1992 - Small Ruminant Production System Research.
11-16 June 28 July-3 August 1994 - Prince of Songkla University, Hat Yai, Thailand.
Use of Computer for Senior and Middle Manager. NARC, Kathmandu

INTERNATIONAL SEMINARS/WORKSHOP/MEETINGS ATTENDED

- Buffalo production System in Nepal. Paper presented at UPLB, Philippines. Losbonos 1984
- Priorities For Research and Development on Small Ruminants in Nepal. Paper Presented in the Seminar "Small Ruminant Production System in Asia" 21-23 August 1989, Kualalampore.
- Research and Development activities and needs on small ruminants in Nepal, Paper presented at First Annual Workshop of Small Ruminant Production System Network for Asia, July 22-26, 1991 Bogor, Indonesia.
- "VI International Conference On Goats" March 2-9, 1992 New Delhi, India.
- Case Study : Goat Production Systems in Sunaul Village of Nawal Parasi (Tarai Region of Nepal Paper Presented at Second Annual Workshop of Small Ruminant production System Network for Asia. March 16-19, 1992 Hat Yai, Thailand.
- "Over Grazing By Domestic Animals in Nepal" September 6-19, 1992. Paper presented at Obihiro University Hokkaido, Japan.
- Comparative study of Four Dairy Crossbred Cows. Paper Presented in "6th Asia Australia Animal Science Congress" November 23-28, 1992 Sukuthai

Open University, Bangkok, Thailand

- "Sustainability of Tree Cropping Production for small ruminants" Nov 30-4 Dec, 1992. Kuala Lumpur, Malaysia.
- Research Priorities for Animal Agriculture by Agro-Ecological Zone in Nepal. Paper presented at the meeting "Global Agenda for Livestock Research Consultation for the South Asian Region Held at ICRISAT, Hyderabad, India June 6-8, 1995.
- Effects of Intervention in Feeding management on meat Production of Hill Goats ". Paper Presented at 8th AAAP Congress (Australian Asia Animal Science Congress) Chiba, Makuhari, Messe, Japan, Oct 12-18, 1996.
- "Effect of urea molasses treated rice and wheat straw diet on body weight gain and carcass characteristics of young male buffalo". Paper presented at VIII Conference on Animal Production. Seoul National University Seoul, Korea. June 28- 4th July 1998.
- Stakeholder's Meeting – Using Livestock to improve the livelihood of Land less Farmer. 10-15th Dec, 2003 Mymensingh, BAU, Bangladesh
- Workshop on "Aquatic Ecosystem and Fisheries in Indogangetic Plain" Dhaka, Bangladesh. 21-22nd Dec 2003 Organized by World Fish Center, Cairo - Egypt

TECHNICAL PAPERS PUBLICATIONS : INTERNATIONAL :

- Priorities for Research and Development on small Ruminant in Nepal. SRUPNA Proceeding 1989.
- Research and Development Activities and Needs on Small Ruminants in Nepal. SRUPNA Proceeding, 1991
- A Case study of Sunaul Village, Nawal Parasi (Animal Production System) SRUPNA Proceeding, 1992.
- Over grazing by domestic animals in Nepal. Proceeding. 1992. Obihiro University Hokkaido, Japan.
- Productive performance of four dairy crossbred cattle's (Jersy, Holostein Friesan, Ayrshire and Brownswiss) Proceeding : 6th Asia Australia Animal Science Congress. 1992. Bangkok, Thailand.
- Effects of Intervention in feeding management on meat production of hill goat . Proceeding of 8th Animal Science Congress (AAAP), Chiba, Japan October 13-18, 1996.
- Research priorities for animal agriculture by agro-ecological zone in Nepal. Paper published in Global Agenda for Livestock Research Proceeding of the Consultation for the South Asia Region. 6-8 June 1995, ICRISAT Asia Centre. Patancheru, India.
- An Additional Survery of Gene Flow between Yaks and Cattle in the Nepalese Himalayas, Animal Science the Technology, Vol.67, No.4. April 1996.
- Effects of urea molasses treated rice and wheat straw diet on body weight gain and carcass characteristics of young

male buffalo. Proceedings of 8th WCAP, Seoul national University, Seoul. June 28-July4, 1998.

PROFESSIONAL EXPERINECES:

- 1970-1974 - Farm manager – Establishment of karnali Sheep Farm, Jumla. Studied the performance of Polwarth sheep
- 1974-1976 - Associate Livestock Development officer for sheep, Goat and wool Development Project (72/Nep/UNDP).
- 1976-1978 - *M.S. Study (Animal Production). School of Agriculture, Aberdeen University, Scotland.*
- 1978-1981 - Farm Manager-Sheep Development Farm, Chitlang,
- Livestock Consultant: On deputation to Agriculture Projects Service Center (APROSC) Nepal. To prepare Rapati Integrated Rural Development Project.
- 1981-1983 - *Sheep Breeding, Production and Management Expert to Syria Arab Republic under UNDP Programme.*
- 1983-1985 - Sheep and goat development Co-ordinator - Department of Livestock Development and Animal Health (HMG)
- 1985-1986 - Farm Manager-Livestock Development Farm Khumaltar, Kathmandu, Nepal.
- 1986-1992 - Farm Manager Livestock farm management,
- Co-Ordinator - Bovine Research Program., Khumal
- *Project Co-Ordinator."Goat Production System in Nepal" IDRC/HMG Nepal (1988/89 - 1991-92).*
- *Studied the Goat Production System of Different agro-ecological zone (High mountain Mid-hill and Terai region). HMG/IDRC- Canada*
- 1993-1995 - *Co-ordinator -National Animal Science Research Institute (NASRI) Khumaltar.*
- 1996 on wards - Co-ordinator
Bovine Research Programme
Nepal Agricultural Research Council
- March 2000 - *Project Leader -Increasing Livestock Productivity in Mixed Crop Livestock Farming System in South Asia (Nepal)ILRI/ICRISAT/NARC*
- July 2002
- July 2000 - June 2003 *Project Leader: Identification of Goat Production Systems and opportunity for its development in Mid-Western and Far- Western hills of Nepal. NARC / HARP (DFID).*
- April 2002-
March 2005 *Project co-ordinator - Using Livestock to improve the livelihood of Landless farmers of Rauthat and Bara districts.NARC/ University of Reading, U.K*
- December 2002
onwards *Director
Livestock / Fishery Research,
Nepal Agricultural Research Council (NARC) .*

DECORATION:

- Awarded Honorable Medal -Gorkha Dachhin Bahu (IV), 1972, From His Majesty the king Birandra Bir Bikram Shah Dev
- March 1998 - Animal Science Service Award (25 Years) from NARC

Bio-data

Name : DR. JEETENDRA MAN SHRESTHA
Date of Birth : [REDACTED]
Nationality : Nepalese
Marital status : Married
Permanent Address : [REDACTED]
Telephone : [REDACTED]
E-mail : [REDACTED]
Present Office Address : Chief, Zoonoses Subsection
Epidemiology and Disease Control Division
Department Of Health Services
Teku, Kathmandu
Telephone : 00-977-1-4255796
Facsimile : 00-977-1-4262268
E-mail : [REDACTED], jeetendra@edcd.org.np

Academic qualification:

- School Leaving Certificate Examination in 1984 from Anandakuti Buddhist Boarding High School, Kathmandu.
- Proficiency Certificate level in Sciences with Biology and Physics as major subject in 1987 from Amrit Science College, Kathmandu.
- Bachelor in Veterinary Medicine and Surgery from University of Agriculture Sciences, Bangalore in 1993.
- Post Graduate Training in Wild Life Medicine and Veterinary Toxicology, University of Agricultural Sciences and B.N.P., Bangalore, India.

Professional training:

- Diploma in Computer software application
- Training on Molecular biology and Bio-technology, MASHAV – Israel
- Laboratory Diagnosis of Rabies – National Institute of Communicable Diseases, Shamnath Marg, New-Delhi, India
- Training on Prevention and Control of Zoonoses including Laboratory diagnosis - National Institute of Communicable Diseases, Shamnath Marg, New Delhi, India
- Advanced Level Tissue Culture Training – National Agricultural Research Council and JICA, Japan.

- Participation in International Action Planning workshop in Taeniosis and Cysticercosis, Arusha, Tanzania.
- Training on Planning, Monitoring and Evaluation, organized by APROSC and GTZ.
- Participation in Rabies Elimination strategic planning workshop in the SAARC Region, Colombo, Srilanka

Work Experiences:

- Resource Person at the training of Public Health Officer and Medical Officers organized by WHO-Nepal, NZFHRC, Kathmandu.
- National Focal Person for Zoonotic Diseases Prevention and Control under Epidemiology and Disease Control Division, Department of Health Services, MoH
- National Training Co-coordinator for training on Rabies for Health Professionals – Paramedics and Medical Officers
- Member of Rabies Vaccination Committee in Dogs of Kathmandu Valley (8 municipalities including Banepa, Dhulikhel and Panauti Municipalities).
- Team member of National Roll Back Malaria Team, Epidemiology and Disease Control Division, Department of Health Services
- National Co-coordinator among Veterinary and Health Sectors for the Control of Zoonoses
- National Co-coordinator for the production of Nervous Tissue Origin – Antirabies Vaccine for the use in Human Beings at Rabies Control and Public Health Section, Tripureswor.
- National Co-coordinator for the production of Cell Culture Origin – Antirabies Vaccine for the future use in Human Beings in financial and equipment support by WHO (Country Office, WHO-SEARO and Headquarter) and JICA at Rabies Control and Public Health Section, Tripureswor.
- Disease Investigation Officer (Incharge of Pathology Section) at Central Veterinary Laboratory and Animal Disease Control Section, Tripureswor, Kathmandu, 1995-1997.
- Chief, Animal Quarantine Check Post, Satti, Kailali, 1997.
- Chief, Zoonoses Subsection, Epidemiology and Disease Control Division, Department of Health Services, 1997 – till date.

Publications and paper presentation:

1. "Book on Rabies" in Nepali for Medical and Health Professionals (Medical Officers and other Paramedics) financially supported by WHO-Nepal
2. "Book on Zoonoses" in Nepali for Medical and Health Professionals (Medical Officers and other Paramedics) financially supported by WHO-Nepal
3. Japanese Encephalitis in Nepal – 2000; analysis of 2000 data and review of literatures, January 2001, Epidemiology and Disease Control Division
4. Epidemiological Situation of Japanese Encephalitis in Nepal; Paper presented at National Vector Borne Diseases Workshop, February 2002
5. Post Exposure Prophylaxis of Rabies in Human Beings, Annual Report 2000, Epidemiology and Disease Control Division, Department of Health Services
6. Post Exposure Prophylaxis of Rabies in Human Beings, Annual Report 2001, Epidemiology and Disease Control Division, Department of Health Services

7. Japanese Encephalitis Situation in Nepal, Annual Report 2000, Epidemiology and Disease Control Division, Department of Health Services
8. Japanese Encephalitis Situation in Nepal, Annual Report 2001, Epidemiology and Disease Control Division, Department of Health Services
9. Snakebite Incidences in Nepal, Annual Report 2000, Epidemiology and Disease Control Division, Department of Health Services
10. Snakebite Incidences in Nepal, Annual Report 2001, Epidemiology and Disease Control Division, Department of Health Services
11. Prevention and Control of Rabies and its future strategies; Paper presented at workshop organized by Tuft's University (USA) and NZFHRC (Kathmandu).
12. Control of Rabies in Nepal and it's future Control Strategies; Paper presented at workshop organized by World Society for Prevention and Control of Cruelty to Animals (Italy) and NZFHRC (Kathmandu).
13. Prevention and Control of Rabies in Human Beings in Nepal; Paper presented at workshop organized by Rabies Vaccine Donative's Unit (Japan) and NZFHRC (Kathmandu).
14. Guidelines on Snakebite Case Management (In English) - financially supported by WHO-Nepal and Produced by Epidemiology and Disease Control Division, DHS.
15. Importance of Recording and Reporting of Snakebite Cases in Hospitals; Paper presented at Snakebite management training of Medical Officers and Public Health Officers at Chitwan, 1998.
16. Preparatory and Editorial Panel Member on Strategic Planning of Roll Back Malaria for 2001-2005, June 2000.
17. Preparatory and Editorial Panel Member on Situation Analysis of Malaria in Roll Back Malaria Piloting Districts (Jhapa, Dhanusa and Kanchanpur), June 2000.
18. Production and Publication of number of Information, Education and Communication materials on Rabies, Japanese Encephalitis, Prevention of Snakebite and other Zoonoses.
19. Milk Borne Diseases; Paper presented at Multisectoral workshop in response to co-ordinate activities for the control of Food and Water borne Diseases in Kathmandu Valley, May 2000.
20. Meat Borne Diseases; Paper presented at Multisectoral workshop in response to co-ordinate activities for the control of Food and Water borne Diseases in Kathmandu Valley, May 2000.
21. Milk Borne Diseases; Paper presented at Multisectoral workshop in response to co-ordinate activities for the control of Food and Water borne Diseases in Nepal, May 2001.
22. Meat Borne Diseases; Paper presented at Multisectoral workshop in response to co-ordinate activities for the control of Food and Water borne Diseases in Nepal, May 2001.
23. Books on Zoonoses (Public Health Problem) in Nepali, Shrawan 2060, financially supported by WHO-Nepal
24. Control of Communicable Diseases Manual (In Nepali) for assistant level health personnel), Falgun 2060, financially supported by WHO-Nepal
25. Associate Editor for the publication of "National recommended Surveillance Standards and Case Definition" and "Control of Communicable Diseases Manual (English Version)", 2003, financially supported by WHO-Nepal

RUPA RAJBHANDARI SINGH

Pediatrics and Adolescent Medicine

B.P. Koirala Institute of Health Sciences. Dharan , Nepal

Email:

Education

Degree	University/ Board	Month & year
Senior Cambridge O Level	Cambridge University U.K.	1974 Dec.
Intermediate Certificate Level	Tribhuvan University	1977 July
M.B.B.S (S.N. Med. Collage)	Agra U.P. India	1984
Postgraduate Degree M.D.	Agra (S.N. Med College)	1988

Experience

Institution	Designation	Period		Total experience
		From	To	
Batra Hospital & Medical research Centre, New Delhi	Senior Resident	1.9.88	31.8.89	One Year
Renuka Hospital. Aligarh & research Centre	Consultant Paed.	1.9.89	21.8.93	4 Years
B.P. Koirala Institute of Health Sciences, Dharan , Nepal	Assistant Prof. Paediatrics	22.8.93	21.5.97	3 Years 10 Months
B.P. Koirala Institute of Health Sciences, Dharan , Nepal	Associate Prof. Paediatrics	22.5.97	23.12.99	
B.P. Koirala Institute of Health Sciences, Dharan , Nepal	Additional Prof. Paediatrics	23.12.99 01.2001	26.04.03	
B.P. Koirala Institute of Health Sciences, Dharan , Nepal	Professor Paediatrics and Adolescent Medicine, Assistant Hospital Director, PG Programme Coordinator	27.04.03	Present	

Graduate Students Trained (thesis supervision)

- 10 Senior pediatric house officers
- 2 Senior OB-GYN house officers
- 1 Senior radiology house officer

Awards

1. Honors in 'ENT, Gynae/Obs' in MBBS.
2. Fellow of the Royal Society of Physician (FRSP), London, U.K. 1989.
3. Best Scientific Paper Awards at BPKIHS for
 - i. Epidemic dropsy in Eastern Region Nepal , 1st author.1996
 - ii. Kala-azar in children, 2nd author.1997
 - iii. A study of Prevalence of PEM in Dharan in 6-60 months age group: Chief Moderator, 1st Author.1999
 - iv. Clinico-Lab profile of Japanese Encephalitis with concomitant malaria in children. Chief Guide .2002

Important Trainings

1. Fellowship - WHO-
 - Medical Education Training at Dundee, Scotland November 6-24, 1995.
 - Neonatology Training at AIIMS, New Delhi. Dec. 7, 1997 to Feb 28, 1998.
 - Participated in Inter-country training workshop on IMCI held in May 29- June 9, 2000 KTM.

2. Participated in Facilitator Training on IMCI- Aug. 2001
3. Co-ordinated Training/Workshops
 - Training Workshop in Paediatric Emergency at BPKIHS, May 23-25, 2001 for Doctor of Eastern Region of Nepal.
 - Integrated Management of Childhood Illness (IMCI) in Eastern Region of Nepal.
 - Orientation Training in IMCI 28-30 July 2002, for Doctors and Nurses, BPKIHS.
 - Training of DPHOs in Epidemiology and surveillance March 2002 at BPKIHS.
 - Training workshop of CB-IMCI as Project Director & Training of CTEVT and Health Workers of Dhankuta District at BPKIHS from Sept.- OCT 27, 2002.
 - Training in Neonatal Resuscitation for doctors 2-3 July 2003.
 - Training in Breastfeeding Management for doctors & Nurses June & July 2003.
 - Polio Eradication in Eastern Region of Nepal

ACADEMIC ACHIEVEMENTS

1. Helped in Institutional administration as a member of:
 - a. Executive Committee - since Dec. 1998-2002.
 - b. Spokesperson of the Institute – 1998-99.
 - c. Academic Committee at BPKIHS - 1994-1995, 1999- 2003.
 - d. Research Committee at BPKIHS from 1997-1998.
 - e. Curriculum Development Committee (MBBS).
 - f. Teachers Training Workshop Committee- 1994.
 - g. Polio Eradication Expert National Review Committee, Nepal.
 - h. Chairman, Staff Welfare Committee, BPKIHS
 - i. Central Library committee BPKIHS.
 - j. Medical Education Committee, 1997.
 - k. Annual day Organization Committee BPKIHS
 - l. Scientific Programme Convenor 2001.
 - m. Vice President 21st All Nepal Medical Conference of NMA 2003.
 - n. Chairmen Scientific Programme of ANEMECON –21 March 5-8 2003 at Dharan.
2. Conducted several Entrance Exam of UG and PGs.
3. Co-ordinated various Research Projects of UGs , PGs and Nurses.
4. Thesis Guide of PG students.
5. Editor- News Bulletin .
6. Core Group Member , Scientific Committee from 1997-2000.
7. Internal and External Examiner of Paediatrics for MBBS & PG students within and outside BPKIHS.
8. Co-ordinated National Immunization Days, Dharan .
9. Master of Ceremony in many important Occasions at BPKIHS.
10. Chaired and co-chaired various scientific sessions in Nepal.
11. PG Programme Co-ordinator since July 2002.
12. Asst. Hospital Director since Jan. 2000.

Life Member:

- a. National Teachers' Training Centre, JIPMER Pondicherry.
- b. Nepal Paediatric Society (NEPAS) - Nepal
- c. Nepal Medical Association (NMA) and Dharan Med. Association
- d. Indian academy of Paediatrics
- e. Perinatal Society of Nepal

Worked as Head of Department since 1993 to till mid 2002.

Helped in Institutional administration as Assistant Hospital Director for field programmes and ICUs and in –patient services at BPKIHS.

Working as a Post Graduate Programme Co-ordinator with successful completion of examination by the first batch of the Post Graduates.

Also worked as a spokesperson of the institute for two year.

Still helping as a member of Executive committee, Academic committee.

1. Looking after field programme activities at Teaching districts and supervisions of Interns.
2. Organized and established NICU, PICU and Intermediate Care Nursery.
3. Started exchange transfusions of severely jaundiced newborns as and when required
4. Supervision of all ICUs of the BPKIHS Hospital & wards as Assistant Director
5. Started immunization, Well baby, Genetics and Seizure Clinics and Breastfeeding Management clinic.
6. Helped in recognition of institute as Baby friendly Hospital (BFHI) in 1998.
7. Improved ward & OPD teaching of students, H/O, JR/SR and Nurses at BPKIHS & Inaruwa Hospital.
8. Developed case record books in Paediatrics for MBBS students, Log book of Interns and PGs..
9. Developed Paed./ Neonatal case sheets/Well Baby case records registers to improve record keeping and help in research.
10. Supervised NIDs.
11. Organised school health surveys.
12. Organised various Training Programmes for the Doctors, Nurses and District Health Officers.

PUBLICATION

1. Birth wt. trends at BPKIHS in JNMA October-December, 1995. 1st Author.
2. Profile of PEM Cases in JMNA Oct-Dec 1996, 1st Author.
3. Prepucl Epstein Pearl Revisited - Tropical Doctor, 1st Author.
4. Prune Belly syndrome 1st Author(JNMA) 1998.
5. 'Epidemic dropsy in Eastern Nepal 1st Author', J. of Trop. Paed, Feb, 1999.
6. 'A clinico-laboratory study of Kala-azar in children in Nepal' Singh K., Singh R, Bhatta N., Parija SC, Faridi MMA, J. of Trop Paed. UK, April,1999.
7. 'Lymphadenopathy in a case of Kala-azar in Dharan', Singh K., R Singh., Parija SC., Indian Pediatrics, 1998Aug/Sept.
8. 'Innovative Paediatric Curriculum', R. Singh, P. Gupta, K Singh, S. Koirala, Vol. 36, pg,43-50, Ind. Paed., Jan, 1999.
9. Contributed a chapter in emergency Management manual of BPKIHS 'Emergency management of status Epilepticus' Aug 1997.
10. Contributed a chapter titled 'Eradication of Poliomyelitis- A goal within reach' in Immunization Updat Manual, Dec. 1996 at BPKIHS.
11. Contributed the Chapter in WHO/BPKIHS Manual of Kala-azar "Clinical Manifestation of Kala-azar in children" 1997.
12. Contributed the Chapter WHO/ BPKIHS Manual of 'Manifestation and Management of Epidemic dropsy in Paediatrics' 1998.
13. Infantile Hookworm Syndrome Ind. Paed 2000, Co- author.
14. A case report of- scrotal Swelling- TB Epididymo-orchitis Ind. Paed Aug 2000.
15. Dapsone Poisoning Ind. J. Pharmacology Aug, 2002 Vol -34 Prasad R, Singh R and Das BP.
16. TB- Epididymo-orchitis- P Gupta, R. Singh, K Singh, R Kukreti, World. Paed. Adol & Family care Vol-8, Nov 5, pg 43-45, Dec 2001.
17. Neonatal Septicemia - 2nd Author J of American Society of Tropical Medicine and Hygiene (ASTMH), USA, Aug., 2002, Vol 67 no. 2- 293-4.
18. Bilateral Chylothorax and Noonan Syndrome-IAP- Vol-39 Oct No. 17, 2002 page no. 975-76 R. Singh, R Prasad. Ind. Ped. Oct 2002.
19. KA- KATF management in children 1st author J of American Society of Tropical Medicine and Hygiene (ASTMH), USA, Aug., 2002, Vol 67 no. 2-292.
20. Clinico - Lab profile of Neonatal Septicemia in J of ASTMH, USA, Nov, 2002.
21. Cutaneous Leishmaniasis in a case of Kala-azar in Nepal. J. of ASTMH, Nov. 1999 1st Author.
22. Safe Motherhood programme in Sunsari, a survey from Nepal. N. Jha, R. Singh. S. R. Niraula, D. Uprety. Ind. J of Prev-and Soc. Med Vol 33, No. 1+2, 2002.
23. PEM in Dharan in 6-60 months children. J of ITM Belgium, Nov. 2001. 1st Author.
24. Study of Rota Virus diarrhoea in children at BPKIHS. M Shariff, R. Singh, M. Dev II, Microbiology June 2003 Vol -21, no. -2 page no. 87-90.

CURRICULUM VITAE

Name : Kishan Chand Thakuri

Permanent Address : [REDACTED]

Contact Address : National Foot-and-Mouth Disease (FMD) Control Section
Budhanilkantha, Kathmandu
Phone: 4370657/4372578

Gender : Male

Date of Birth : [REDACTED]

Marital Status : Married

Nationality : Nepali

Academic Qualification :

Year	Degree obtained	Division	Institution/University	Field of study
1987	B.V. Sc. and A.H.	First	Sukhadia University, (Rajasthan), India	Veterinary Science and Animal Husbandry
1991	M.Sc.(Trop. Vet. Sc.)	First	CTVM, University of Edinburgh, Scotland, UK	Vet. Parasitology, Vet. Microbiology, Vet. Epidemiology, Veterinary Public Health

Other Training(s)/Experience(s)

- 1994 One week Training on 'Gender perspective in Agriculture' provided ODA Consultants.
- 1995 Participant as a member (Writing/field team) of PAC Research Impact and Adoption Study. Pakhribas Agricultural Centre, Dhankuta, Nepal.
- 1996 A three month training on 'Decentralised Livestock Planning and Management' obtained from IMA International, Brighton, England.
- 1999 A three month training on 'Veterinary Laboratory Diagnostic Technology' obtained from Veterinary Research Institute Ipoh, Malaysia.

Membership

- Executive member of the Trust for Zoonoses and Consumer Awareness (TRUZCA NEPAL)
- Life Member of the Nepal Veterinary Association
- Member of Editorial Board, Veterinary Review, Pakhribas Agricultural Centre (PAC), Dhankuta, Nepal (From 1988-1995)
- Member of Low Input Alternative Technology Group, PAC from 1987 to 1989
- Registered member of the Nepal Veterinary Council (NVC Regd. No. 050)

Work Experiences:

- 2003 – onward Senior Veterinary Officer and Chief of the National FMD Control Section, Kathmandu
- 1998-2003 Senior Veterinary Officer, Regional Veterinary Diagnostic Laboratory, Pokhara, Nepal
- 1996-1998 Livestock and Animal Health Specialist, Outreach Research Division, Pakhribas Agricultural Centre, Dhankuta, Nepal
- 1987-1996 Veterinary Investigation Officer (VIO), Pakhribas Agricultural Centre, Dhankuta, Nepal.

Papers presented in International/National conferences

- Second International Colloquium on Caprine Pathology and Production, held at Niort, France, June 26-29, 1989. A paper entitled "Nasal leeches in goats in the hills of Nepal" was presented.
- National workshop on livestock in the hills of Nepal-2 held at PAC, Dhankuta, March 11-16 1989; A paper entitled "Prevalence of helminthic infection in ruminants in Dhankuta district was presented.

Referees

Dr G R Scott, OBE; FRCVS
C/o Central for Tropical Veterinary Medicine
Easter Bush, Roslin
EH25 9RG
Edinburgh, Scotland

Dr S N Mahato
Director General
Department of Livestock Services
Harhar Bhawan, Lalitpur, Nepal

Dr Udaya Singh
Former Director General
Department of Livestock Services, Nepal

Publications

Thakuri, K. Chand, Mahato, S. N., and Thakuri, R. P. (1995). A retrospective study of goat diseases in the eastern hills of Nepal. *Veterinary Review*, 9(2) and 10(1), 1-6.

Thakuri, K. Chand, Rai, K. (1996). Identification of *Eimeria* species in chickens in the eastern hills of Nepal. *Veterinary Review*, 11(1), 5-7

Thakuri, K. Chand (1996). Diseases of pig in the eastern hills of Nepal; a retrospective study. *Veterinary Review*, 11(2), 33-36

Thakuri, K. Chand (1996). Adoption of Pakhribas pig in the eastern hills of Nepal. Forthcoming PAC occasional paper in Press.

Thakuri, K. Chand, Mahato, S.N., Thakur, R.P. and Giri, R.K. (1995). A retrospective study of goat diseases in the eastern hills of Nepal. *Vet.Rev.*, 9(2) and 10(1), 1-6.

Thakuri, K. Chand, Thakur, R.P. and Rai, K. (1993). Identification of livestock ticks in the eastern hills of Nepal. *Veterinary Review* Vol. 8(2).

Thakuri, K. Chand; Thakur, R.P. and Rai, K (1994). A comparative efficacy of **Fenbendazole, Mebendazole and Krimos powder** against natural infection of gastro-intestinal nematode in goats. *Veterinary Review* 9 (1)

Thakuri, K. Chand and Mahato, S.N. (1992) Diseases of cattle and buffaloes in the Koshi hills of Nepal: A retrospective study. *Veterinary Review* Vol. 7(2).

Thakuri, K Chand and Thakur, R.P. (1993) Efficacy of ivermectin against ear mite in rabbits. *Veterinary Review* Vol. 8(1).

Thakuri, K.C. and Mahato, S.N.(1990) Prevalence of gastro-intestinal helminthic infections in ruminants in Dhankuta district. In *"Proceedings of Livestock in the Hills of Nepa"* 2, pp. 120. Pakhribas Agricultural Centre, Dhankuta, Nepal.

Mahato, S.N., Thakuri, K.C. and Gatenby, R.M. (1989) Nasal leeches in goats in the Hills of Nepal. In: *Proceedings of the Second International Colloquium on goat diseases and production held at Niort, France, June 26-29/* pp. 53.

Mahato, S.N. Thakuri, K.C. and Yadav, J.N. (1989) Assessment of the deleterious effects of feeding cardamom leaves to sheep. *Veterinary Review*, 3:1-3.

Mahato, S.N., Thakuri, K.C., Thapa, P.B. and Yadav, J.N. (1989/90) Prevalence of Salmonella infection among chickens in Pakhribas Agricultural Centre, its extension area and two HMG/N farms. *Bulletin of Veterinary Science and Animal Husbandry Nepal*, 17 & 18:1-8.

Sherchan, D.P., Wallace, D., Neupane, G., Thakuri, K.C., Campbell, L., KC, R., Sherpa, S.L., Tiwari, T.P., Rai, U.P. and Duwadi, V.R. (1990) - Samuhik Bhraman on some Red Soils Area of Dhankuta and Bhojpur districts. *PAC Working Paper-10*.

Joshi, Y.R., Moktan, D., Chemjong, P.B., Thakuri, K.C., Neupane, P.R., Joshi, L., Rijal, D., Khatiwad, P.P. and Campbell, L.L. (1990) Site selection for implementation of Outreach Programme in the Mechi Hills. *PAC Technical Paper* No. 138.

Thakur, R.P., Thakuri, K Chand and Rai, K. (2050/1993) *Sihundi ko chop bata sungur ko golo juka niko parne upaya* (Treatment of ascariasis in pig with latex of *Euphorbia royleana*. *Prabidhi Bulletin*, Pashu Rog Anbeshan Tatha Bislesan-2.

Thakur, R.P. and Thakuri, K. Chand (1992). Helminth infections of goats in Nepal - a review. *Veterinary Review* No. 7(2).

Thakur, R.P., Thakuri, K. Chand and Rai, K. (1993) Identification of *Eimeria* species in sheep and goats of the eastern hills. *Veterinary Review* Vol. 8(1).

Jha, V.C., Thakuri, K. Chand, Yadav, J.N. and Rai, L.B. (1993) Report on some causes of death in goats. *Veterinary Review* Vol. 8(1).

Jha, V.C., Thakuri, K. Chand and Sinjali, D.B. (1991) Rumen fistulation at Pakhribas Agricultural Centre. *Veterinary Review* Vol. 5.

Curriculum Vitae

Name : Purna Chandra Wasti

Date of Birth : [REDACTED]

Sex : Male

Marital Status : Married

Height : 1.65 meters

Religion : Hindu

Permanent Address : [REDACTED]

Contact Address: Department of Food Technology and Quality Control, Babar Mahal, Kathmandu, Nepal.

Tel -977-1- 251132 (o) [REDACTED]

Academic Qualification:

S.N.	Degree Obtained	Duration	Institution	Year	Division
1.	Master of Professional Studies in Food and Nutrition Planning	1 1/2 years	University of the Philippines, Los Banos, Philippines	2001	Equivalent to First
2.	B.Tech.(Food Technology).	4 years	Central Campus of Technology, Dharan, T.U., Nepal	1994	First
3.	Intermediate in Science (I.Sc.)	2 years	Central Campus of Technology, Dharan, T.U., Nepal	1990	First
4.	S.L.C.		Jalpa Devi Secondary School, Pakhribas, Dhankuta, Nepal	1987	First

Training:

1. Professional Course on " Management and Development", February 2- March 15, 2000 organized by Nepal Administrative Staff College, Nepal.
2. Computer Training in Word, Excel, Power Point, 2000.
3. Public Speaking Training organized by Reiyukai Nepal, Dharan Branch, 1993.

Awards/prizes/scholarships

1. District level Essay Competition organized by District Education Office Dhankuta - First Prize (1986)
2. District level Essay Competition organized by Family Planning Association Dhankuta- Second Prize(1986)
3. Nation wide Essay Competition organized by Ministry of Education Consolation Prize (1985)

4. District level oratory contest organized by Rei yu Kai, Nepal, Dhankuta Branch - Third Prize(1986)
5. Karmachari Milan Kendra Scholarship - (1988, 1989)
6. Bishranti Mandir Scholarship - (1988, 1989)
7. Stipend by T.U. Nepal - (1990, 1993,1994)
8. FNP- Fellowship by RTP-FNP , Philippines - (May 15 2000- Nov. 15 2001)

Work Experience:

1. Working as an Assistant Food Research Officer in the Department of Food Technology and Quality Control since August 1995 till date. Planning and implementation of various Nutrition Intervention Programs is the major responsibility of the present job. Those programmes implemented and to be implemented in the future are Community Nutrition Improvement programs (Nutrition Surveillance, Mothers' Classes, Supplementary Feeding of under five children, Food processing training), Regional Level Nutrition Training for Officers from Agriculture, Livestock, Women Development, Nutrition Education through radio, Poster and leaflet publication etc.
2. Currently involved in planning and implementation of Regional Network on Food and Nutrition Planning activities such as advocacy meeting with different sectors, National level Advocacy workshop, National, Regional, District and Community level Training Programs, Community level Pilot Nutrition Programs. The aim of this programme is to integrate nutrition in Macro economic level, sectoral and local level development plans and programs with the support of the Regional Training Programme on Food and Nutrition Planning, Philippines.
3. Involvement in the Monitoring and Evaluation of Local Level Plan Implementation (MELLPI) Team from the National Nutrition Council, Philippines, 2001.
4. Involvement in the formulation of advocacy plan for the effective implementation of Rules and Regulations for Compulsory Fortification of basic food commodities with iron and vitamin A in the Philippines, 2001.
5. Involvement in the formulation and implementation of Integrated Food and Nutrition Plan in the Municipality of Mabitac, Laguna, Philippines, 2001.
6. Facilitated the In country Workshop on the review of the curriculum of nutrition offerings in Nepal, 2002.
7. Involvement in the National, regional and district level training on Food and Nutrition Planning and Management as a resource person and facilitator, 2002.
8. Involvement in the National and Regional level Workshop on Nutrition Advocacy as a organizer/facilitator, 2002, 2003.
9. Involvement in the write up of training module for officers', non-officers' and community level development workers, 2002.
10. Involvement in the preparation of Nepal Country Paper on Post-harvest Technology, 2003.

Workshop/Seminar/Conventions Attended:

1. A two day Joint Annual Convention/seminar of Philippine Association of Nutrition and Philippine Society of Nutritionists and Dietitians, Manila, Philippines.
2. A two-day Convention on Human Ecology and Nutrition jointly organized by Regional Training Programme on Food and Nutrition Planning (RTP-FNP), UPLB and Food and Nutrition Planners in Development (FOND), Philippines.
3. A two-day workshop seminar on In-Country Curricular Review of Nutrition Offerings in Nepal, 2001.
4. Papers on "Nutritional Status of Chepang Community in Dhading, Chitwan and Makwanpur districts" presented separately in the district level seminars in the respective districts.

5. Paper on " Nutrition for Development" in the regional advocacy workshop in Biratanagar, 2003.
6. Participated in the Urban Nutrition Programme of Kathmandu Metropolitan City, 2003.
7. Involved as a resource person in the orientation for baseline survey on Food Safety organized by Kathmandu Metropolitan City, 2003.
8. Presentation of Report on Food Safety Situation of Hotels/Restaurants in Kathmandu Metropolitan City, July 2003.
9. Involvement in the Asia and the Pacific regional Ministerial Conference organized by FAO as organizing committee member, 2002.
10. Involvement in the International Conference on Cooperatives as organizing committee member, 2002.
11. Involvement in South Asian Workshop on Post harvest Technology as organizing committee member, 2002.

Publications:

1. Nutritional Status of Chepang in Dhading, Makwanpur and Chitwan district, Nepal, 1999.
2. Feeding the Hungry: A challenging Task, article published in The Rising Nepal, a national English daily, 2002.
3. Genetically Modified Foods: Are they beneficial? article published in The Rising Nepal, a national English daily, 2002.
4. World Breast Feeding Week: For Healthy Babies and Healthy Mothers, article in The Rising Nepal, 2002.
5. The Right to Food: Strong Need of Translation, article published in The Rising Nepal, 2003.
6. Human Poverty: Time to act against it, article published in The Rising Nepal, 2003
7. UN Special Session on Children: Will the Commitments be fulfilled? article published in The Rising Nepal, 2002.
8. Vitamin A: Food After Capsules, article published in The Rising Nepal, 2003.
9. Gender and Nutrition: Need to address Both, article published in The Rising Nepal, 2003.
10. Water Quality to sustain human life, article published in The Rising Nepal, 2003.
11. Food for Education for better performance, article published in The Rising Nepal, 2003.
12. Rapid Urbanization, Local bodies and Malnutrition, article published in The Rising Nepal, 2003.
13. Be a Soya Pal Go Healthy article published in The Rising Nepal, 2003.
14. More than 25 Food and Nutrition Related articles (in Nepali language) in National Newspapers such as Gorkhapatra , Kantipur and Annapurna Post and Swasthya Sandesh Monthly.

Other Experiences:

1. Working experience with the students (Professionals) from more than 25 countries and more than 250 in number and with varied cultural and religious background, as President of International Students' Association (ISA) UPLB, Philippines, 2001.
2. Working experience with the students and the College management as a Member of Students' Union, Central Campus of Technology, Dharan, Nepal, 1993.

Membership:

1. Nepal Food Scientists' and Technologists' Association (NEFOSTA) since 1995 till date.
2. Life Member of Nepal Nutrition Association and currently working as an Executive Committee Member of the Association.

Languages: Nepali, English, and Hindi.

**ESTIMATED 3 YEAR BUDGET
AND BUDGET JUSTIFICATION**

GLOBAL LIVESTOCK CRSP
PCE-G-00-98-00036-00
Requested Budget for 2004/2007 - YR 26 - 28

Subgrant Number:
Animal Source Foods for Nepali Children

Principal Investigator: Laurie C. Miller

Institution: Tufts University

Category	AMOUNTS						TOTALS
	USA	Nepal	COUNTRY B	COUNTRY C	OTHER		
PERSONNEL							
Salaries	\$ 145,500.00	\$ 198,603.00	\$ -	\$ -	\$ -	\$ -	\$ 344,103.00
Benefits	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
Allowances:	\$ -	\$ -					\$ -
Housing	\$ -	\$ -					\$ -
Education	\$ -	\$ -					\$ -
Other	\$ -	\$ -					\$ -
Subtotal Personnel	\$ 145,500.00	\$ 198,603.00	\$ -	\$ -	\$ -	\$ -	\$ 344,103.00
SUPPLIES & SERVICES	\$ 19,200.00	\$ 129,362.00	\$ -	\$ -	\$ -	\$ -	\$ 148,562.00
EQUIPMENT	\$ -	\$ 13,100.00	\$ -	\$ -	\$ -	\$ -	\$ 13,100.00
TRAVEL							
Domestic	\$ 3,100.00	\$ 73,810.00	\$ -	\$ -	\$ -	\$ -	\$ 76,910.00
International	\$ 45,450.00	\$ 9,800.00	\$ -	\$ -	\$ -	\$ -	\$ 55,250.00
Subtotal Travel	\$ 48,550.00	\$ 83,610.00	\$ -	\$ -	\$ -	\$ -	\$ 132,160.00
TRAINING							
Graduate Student Support	\$ 0.00	\$ 0.00	\$ 0.00	\$ 0.00	\$ 0.00	\$ 0.00	\$ -
Other - Conferences & Wkshps.	\$ 0.00	\$ 4,750	\$ 0.00	\$ 0.00	\$ 0.00	\$ 0.00	\$ 4,750.00
Subtotal Training	\$ -	\$ 4,750.00	\$ -	\$ -	\$ -	\$ -	\$ 4,750.00
Subtotal Direct Costs	\$ 213,250.00	\$ 429,425.00	\$ -	\$ -	\$ -	\$ -	\$ 642,675.00
Indirect Costs	\$ 54,378.75	\$ 51,531.00	\$ -	\$ -	\$ -	\$ -	\$ 105,909.75
TOTAL COSTS	\$ 267,628.75	\$ 480,956.00	\$ -	\$ -	\$ -	\$ -	\$ 748,584.75
SUMMARY							
TOTAL SUBGRANT	\$ 267,628.75	\$ 480,956.00	\$ -	\$ -	\$ -	\$ -	\$ 748,584.75
MATCHING CONTRIBUTION	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
Source 1	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
Source 2	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
Source 3	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
TOTAL COSTS	\$ 267,628.75	\$ 480,956.00	\$ -	\$ -	\$ -	\$ -	\$ 748,584.75

GLOBAL LIVESTOCK CRSP

PCE-G-00-98-00036-00, SUBGRANT#:
Budget for 2004/2005 - YR 26- YR 1

Animal Source Foods for Nepali Children

Principal Investigator: Laurie Miller

Institution: Tufts University

Category		Category		AMOUNTS	
USA				Nepal	TOTALS
PERSONNEL			PERSONNEL		
Academic Faculty			Academic Faculty (BPKIHS)		
Miller, L.	%FTE	salary/fringe	Singh, R.	%FTE	
PI	15	\$ 11,000.00	Co-Investigator	15	\$ 2,630.00
Gleason, G.	Cons.	\$ 3,500.00	Bhatta, N.	25	\$ 4,109.00
Micronutrients/Nutrition			Project Pediatrician		
Capello, M.	Cons.	\$ 1,000.00			
Parasitologist					
Griffiths, John	Cons.	\$ 4,000.00			
Statistician					
Research Scientists			Research Scientists		
Mitchell, B.	Cons.	\$ 17,000.00	Pakhrin, B.	33	\$ 4,000.00
Project Manager			Sr. Vet. Consultant		
Kane, M.	Cons.	\$ 4,500.00	TBN	100	\$ 3,000.00
Social Scientist			Field Vet		
Sherman, D.	Cons.	\$ 4,500.00	TBN	ons.	\$ 4,000.00
Veterinarian			Database Designer		
			TBN	50	\$ 6,000.00
			Sr. Social Scientist		
Post-Docs			Post-Docs		
Post-Doc (NONE)			Post-Doc (NONE)		
Title	\$	-	Title	\$	-
Staff			Staff		
Chan, W.	17	\$ 6,000.00	TBN		
office assistant			Project Manager	50	\$ 7,500.00
			Shrestha, B.	100	\$ 10,000.00
			Itahari Field Supervisor		
			Bishwakarma, R.		
			CFO		in kind
			TBN		
			CFO Assistant		in kind
			TBN		
			Statistician	33	\$ 1,000.00
			TBN		
			Data Entry	50	\$ 3,000.00
			TBN		
			Community Devel. Spec.	100	\$ 3,000.00
			TBN		
			DLS-District Vet support	ons.	\$ 720.00

GLOBAL LIVESTOCK CRSP

PCE-G-00-98-00036-00, SUBGRANT#:
Budget for 2004/2005 - YR 26- YR 1

Animal Source Foods for Nepali Children

Principal Investigator: Laurie Miller

Institution: Tufts University

Category	Category	AMOUNTS
	Pradhan, R.	
	Business Devl. Spec.	15 \$ 1,500.00
	Chapagain, S.	
	Business Devl. Spec.	15 \$ 1,500.00
	TBN	
	4 Field Staff	100 \$ 5,000.00
	Kafle, K.N.	
	Dairy Coop President	10 \$ 250.00
	Nuepane, P.P.	
	Local NGO President	10 \$ 250.00
	Sharma, K.P.	
	Business training Spec.	ons. \$ 2,000.00
	Shrestha, H.R., Rai, A.K., Pradhan, A.	
	NARC/NASRI/Tarahara-RARS	10 ea \$ 2,025.00
	Wasti, PC., Krishna, GC.	
	National Nutrition Programme	15 ea \$ 2,000.00
	TBN	
	ICIMoD-Regional Case Studies	ons. \$ 5,000.00
	Shrestha, J.M./Gongol G./Thakuri, K.	
	Zoonoses/DHS/DLS	10 ea \$ 900.00

BPKIHS Staff

Research Scientists

Lamsal, M.		
Biochem/Lab Supervisor	20 \$	219.00

Staff

TBN		
Microbiologist	10 \$	82.00
dhar Baral, D.		
Statistician	33 \$	164.00
TBN		
Lab technician	10 \$	14.00
TBN		
data entry	20 \$	55.00

GLOBAL LIVESTOCK CRSP

PCE-G-00-98-00036-00, SUBGRANT#:
 Budget for 2004/2005 - YR 26- YR 1

Animal Source Foods for Nepali Children

Principal Investigator: Laurie Miller

Institution: Tufts University

Category	Category	AMOUNTS	
	TBN		
	Nutritionist	25 \$	82.00
	TBN		
	Ped HO (4)	30 \$	103.00
	TBN		
	Accountant	25 \$	329.00
Subtotal Personnel		\$ 51,500.00	Subtotal Personnel \$ 70,432.00 \$ 121,932.00
SUPPLIES AND SERVICES	SUPPLIES AND SERVICES		
Communications	Communications	\$ 1,250.00	\$ 3,300.00 \$ 4,550.00
Mailing	Mailing	\$ 1,250.00	\$ - \$ 1,250.00
Office Supplies	Office Supplies	\$ 3,000.00	\$ 4,375.00 \$ 7,375.00
Software	Software	\$ 500.00	\$ 500.00 \$ 1,000.00
SAS statistical pkg, Cary NC	SAS statistical pkg, Cary NC		
Publications	Publications	\$ -	\$ - \$ -
Printing cost based on past experience	Printing cost based on past experience		
Publication Name; # of copies, # of pages each; cost per copy	Publication Name; # of copies, # of pages each; cost per copy		
Project Supplies	Project Supplies	\$ -	
	Med lab assays, Vet lab assays, Quality assurance, cultures	\$	19,132
	Albendazole- anthelmintic for children	\$	20.00
	Sandals-Hookworm prev/phleb incentive	\$	240.00
	Training education and orientation material	\$	4,400.00
	Animal Costs- poultry, fish	\$	500.00
	Transport Coolers 6@ \$25/ea	\$	150.00
	Vet supplies (vaccines, medications, syringes)	\$	500.00
Equipment maintenance agreements	Equipment maintenance agreements		
Maintenance agreement on computers typewriters, photocopier/fax, etc.	Maintenance agreement on computers typewriters, photocopier/fax, etc.	\$ -	\$ -
Subcontracts (attach detailed budget for each)	Subcontracts (attach detailed budget for each)		

GLOBAL LIVESTOCK CRSP

PCE-G-00-98-00036-00, SUBGRANT#:
Budget for 2004/2005 - YR 26- YR 1

Animal Source Foods for Nepali Children

Principal Investigator: Laurie Miller

Institution: Tufts University

Category		Category	AMOUNTS	
Name of Institution	\$	Name of Institution	\$	\$
Subtotal Supplies	<u>\$ 6,000.00</u>	Subtotal Supplies	<u>\$ 33,117.00</u>	<u>\$ 39,117.00</u>
EQUIPMENT		EQUIPMENT		
1 Equipment type (Specific information on model, manufacturer, etc.)	\$ -	1 Refrigerator/Freezer	\$ 1,350.00	\$ 1,350.00
		York Electric, combined refrig/-20oC freezer, Dharan		
		2 Measuring Equipment	\$ 4,000.00	\$ 4,000.00
		anthropometric equipment for field use (scales, stadiometers, tapes, etc. Seca, Delhi)		
		3 4 desktop computers \$1300/ea	\$ 5,200.00	\$ 5,200.00
		Pentium IV-Acer, 700MHz, Intel Processor, 64Mb RAM		
		4 Laptop	\$ 1,000	
		Pentium IV IBM A31 P		
		5 3 Printers \$200/ea	\$ 600	
		Cannon BJC-2100SP		
		6 Laser Printer	\$ 450	
		HP LaserJet 1300n		
Subtotal Equipment	<u>\$ -</u>	Subtotal Equipment	<u>\$ 12,600.00</u>	<u>\$ 12,600.00</u>

GLOBAL LIVESTOCK CRSP

PCE-G-00-98-00036-00, SUBGRANT#:
Budget for 2004/2005 - YR 26- YR 1

Animal Source Foods for Nepali Children

Principal Investigator: Laurie Miller

Institution: Tufts University

Category	Category	AMOUNTS
TRAVEL	TRAVEL	
<u>Domestic</u>	<u>Domestic</u>	
Miller, L.	All	
Amer Acad Pediatrics - 5 days \$ 1,000.00	Ground transportation in KTM and Itahari, \$ 14,930.00	
RT Airfare BOS/DCA, \$250; hotel \$90/d; M&I \$60/day	including driver, vehicle maintenance, petrol	
	25 Roundtrip flights between KTM and Itahari \$3000, per diem costs \$2250 (\$15/day ~75 days each city)	\$ 5,250.00
	Exec Com mtgs 4/yr; Stakeholder Com mtgs 2/yr, Sector Workgrp mtgs 2/yr	\$ 1,000.00
Subtotal Domestic Travel \$ 1,000.00	Subtotal Domestic Travel \$ 21,180.00	\$ 22,180.00
<u>International</u>	<u>International</u>	
Miller, L.		
Establish Project - 30 days. RT Airfare from BOS to KTM, \$1600; hotel: \$20/day 10 days in KTM, \$5/day 20 days Dharan; meals/incid \$35/day		\$ -
Miller, L.		
Project Supervision - 11 days. RT Airfare from BOS to KTM, \$1600; hotel, \$20/day for 2 days KTM, \$5/day for 9 days Dharan; meals/incid \$35/day		\$ -
Mitchell, B.		
Establish Project- 30 days. RT		\$ -

GLOBAL LIVESTOCK CRSP

PCE-G-00-98-00036-00, SUBGRANT#:
 Budget for 2004/2005 - YR 26- YR 1

Animal Source Foods for Nepali Children

Principal Investigator: Laurie Miller

Institution: Tufts University

Category	Category	AMOUNTS
Airfare from BOS to KTM, \$1600; hotel, \$20/day 10 days in KTM, \$5/day 20 days Dharan; M&I \$35/day		
Mitchell, B. Proj Superv -11 days. RT Airf from BOS to KTM \$1600; hotel \$20/day for 2 days KTM, \$5/day for 9 days Dharan; M&I \$35/day	\$ 2,070.00	
Kane, M. Consulting -11 days. RT Airfare from DCA to KTM, \$1600; hotel \$20/day for 2 days KTM, \$5/day for 9 days Dharan; M&I \$35/day	\$ 2,070.00	
Sherman, D. Consulting -11 days. RT Airfare from BOS to KTM, \$1600; hotel \$20/day for 2 days KTM, \$5/day for 9 days Dharan; M&I \$35/day	\$ 2,070.00	
Gleason, G. Consulting -11 days. RT Airfare from BOS to KTM, \$1600; hotel \$20/day for 2 days KTM, \$5/day for 9 days Dharan; M&I \$35/day	\$ 2,070.00	
Subtotal International Travel	\$ 16,250.00	Subtotal International Travel \$ - \$ 16,250.00
TOTAL TRAVEL	\$ 17,250.00	TOTAL TRAVEL \$ 22,180.00 \$ 39,430.00

TRAINING

Graduate Student Support

Student Name	
Tuition	\$ -
Stipends	\$ -
Books	\$ -
Housing	\$ -
Shipping	\$ -

TRAINING

Graduate Student Support

Student Name		
Tuition	\$ -	\$ -
Stipends	\$ -	\$ -
Books	\$ -	\$ -
Housing	\$ -	\$ -
Shipping	\$ -	\$ -

GLOBAL LIVESTOCK CRSP

PCE-G-00-98-00036-00, SUBGRANT#:
Budget for 2004/2005 - YR 26- YR 1

Animal Source Foods for Nepali Children

Principal Investigator: Laurie Miller

Institution: Tufts University

Category		Category	AMOUNTS	
Subtotal Student Support	\$0.00	Subtotal Student Support	\$0.00	\$ -
Conferences & Wkshps.		Conferences & Wkshps.		
Conf./Wkshp Title, location, # days		Annual Research Day, BPKIHS, 1 day		
# participants, # countries		75 participants, Nepali		
	\$ -	Dept of Pediatrics BPKIHS	\$ 500.00	\$ 500.00
	\$ -		\$ -	\$ -
Subtotal Conferences	\$0.00	Subtotal Conferences	\$ 500.00	\$ 500.00
TOTAL	\$ 74,750.00	TOTAL	\$ 137,829.00	\$ 212,579.00

PREPARED: 3/24/04-MR

PREPARED: 3/24/04-MR

GLOBAL LIVESTOCK CRSP

PCE-G-00-98-00036-00, SUBGRANT#:
Budget for 2004/2005 - YR 26- YR 2

Animal Source Foods for Nepali Children

Principal Investigator: Laurie Miller

Institution: Tufts University

Category	Category	AMOUNTS	
USA		Nepal	TOTALS
PERSONNEL		PERSONNEL	
Academic Faculty	Academic Faculty (BPKIHS)		
Miller, L.	Singh, R.		
PI	Co-investigator		
15 \$ 11,000.00	Bhatta, N.		
Gleason, G.	Project Pediatrician		
Micronutrients/Nutrition			
Cons. \$ 2,000.00			
Capello, M.			
Parasitologist			
Cons. \$ 1,000.00			
Griffiths, John			
Statistician			
Cons. \$ 2,000.00			
Research Scientists	Research Scientists		
Mitchell, B.	Pakhrin, B.		
Project Manager	Sr. Vet. Consultant		
Cons. \$ 17,000.00	33 \$ 3,000.00		
Kane, M.	TBN		
Social Scientist	Field Vet		
Cons. \$ 4,000.00	100 \$ 3,000.00		
Sherman, D.	TBN		
Veterinarian	Database Designer		
Cons. \$ 4,000.00	ons. \$ 2,000.00		
	TBN		
	Sr. Social Scientist		
	50 \$ 5,000.00		
Staff	Staff		
Chan, W.	TBN		
office assistant	Project Manager		
7 \$ 3,000.00	50 \$ 7,500.00		
	Shrestha, B.		
	Itahari Field Supervisor		
	100 \$ 10,000.00		
	Bishwakarma, R.		
	CFO		
	in kind		
	TBN		
	CFO Assistant		
	in kind		
	TBN		
	Statistician		
	33 \$ 2,500.00		
	TBN		
	Data Entry		
	50 \$ 3,000.00		
	TBN		
	Community Devel. Spec.		
	100 \$ 3,000.00		
	TBN		
	DLS-District Vet support		
	ons. \$ 720.00		
	Pradhan, R.		
	Business Devel. Spec.		
	15 \$ 1,500.00		
	Chapagain, S.		

GLOBAL LIVESTOCK CRSP

PCE-G-00-98-00036-00, SUBGRANT#:
Budget for 2004/2005 - YR 26- YR 2

Animal Source Foods for Nepali Children

Principal Investigator: Laurie Miller

Institution: Tufts University

Category	Category	AMOUNTS	
	Business Devl. Spec.	15 \$	1,500.00
	TBN		
	4 Field Staff	100 \$	5,000.00
	Kafle, K.N.		
	Dairy Coop President	10 \$	250.00
	Nuepane, P.P.		
	Local NGO President	10 \$	250.00
	Sharma, K.P.		
	Business training Spec.	ons. \$	2,000.00
	Shrestha, H.R., Rai, A.K., Pradhan, A.		
	NARC/NASRI/Tarahara-RARS	10 ea \$	2,025.00
	Wasti, PC., Krishna, GC.		
	National Nutrition Programme	15 ea \$	2,000.00
	TBN		
	ICIMoD-Regional Case Studies	ons. \$	5,000.00
	Shrestha, J.M./Gongol G./Thakuri, K.		
	Zoonoses/DHS/DLS	10 ea \$	500.00
			BPKIHS Staff
	<u>Research Scientists</u>		
	Lamsal, M		
	Biochem/Lab Supervisor	20 \$	219.00
	<u>Staff</u>		
	TBN		
	Microbiologist	10 \$	95.00
	dhar Baral, D.		
	Statistician	33 \$	164.00
	TBN		
	Lab technician	10 \$	27.00
	TBN		
	Data entry	20 \$	55.00
	TBN		
	Nutritionist	25 \$	82.00
	TBN		
	Ped HO (4)	30 \$	123.00
	TBN		
	Accountant	25 \$	329.00
Subtotal Personnel		\$ 44,000.00	
	Subtotal Personnel	\$ 67,578.00	\$ 111,578.00

GLOBAL LIVESTOCK CRSP

PCE-G-00-98-00036-00, SUBGRANT#:
Budget for 2004/2005 - YR 26- YR 2

Animal Source Foods for Nepali Children

Principal Investigator: Laurie Miller

Institution: Tufts University

Category	-----	Category	-----	AMOUNTS	
SUPPLIES AND SERVICES		SUPPLIES AND SERVICES			
Communications	\$ 1,600.00	Communications	\$ 3,300.00	\$	4,900.00
Mailing	\$ 1,600.00	Mailing	\$ 3,750.00	\$	5,350.00
Office Supplies	\$ 3,000.00	Office Supplies	\$ 4,550.00	\$	7,550.00
Project Supplies	\$ -	Project Supplies			
		Med lab assays, Vet lab assays, Quality assurance, cultures	\$ 28,600		
		Albendazole- anthelmintic for children	\$ 20.00		
		Sandals-Hookworm prev/phleb incentive	\$ 240.00		
		Training education and orientation material	\$ 5,950.00		
		Animal Costs- poultry, fish	\$ 1,500.00		
		Transport Coolers 6@ \$25/ea	\$ 150.00		
		Vet supplies (vaccines, medications, syringes)	\$ 2,500.00		
Subtotal Supplies	<u>\$ 6,200.00</u>	Subtotal Supplies	<u>\$ 50,560.00</u>	\$	<u>56,760.00</u>
EQUIPMENT		EQUIPMENT			
	\$ -	1 Poultry Incubator Sportsman Circulated Air Incubator with Electric Thermostat, Nasco Agric Sci # Z14571N	\$ 500.00	\$	500.00
Subtotal Equipment	<u>\$ -</u>	Subtotal Equipment	<u>\$ 500.00</u>	\$	<u>500.00</u>

GLOBAL LIVESTOCK CRSP

PCE-G-00-98-00036-00, SUBGRANT#:
Budget for 2004/2005 - YR 26- YR 2

Animal Source Foods for Nepali Children

Principal Investigator: Laurie Miller

Institution: Tufts University

Category	Category	AMOUNTS
Kane, M. Consulting -11 days. RT Airfare from DCA to KTM, \$1600; hotel \$20/day for 2 days KTM, \$5/day for 9 days Dharan; M&I \$35/day	\$ 2,070.00	
Sherman, D. Consulting -11 days. RT Airfare from BOS to KTM, \$1600; hotel \$20/day for 2 days KTM, \$5/day for 9 days Dharan; M&I \$35/day	\$ 2,070.00	
Miller, L. CRSP meeting in E. Africa. Airfare BOS-Nairobi: \$1300. Hotel/M&I \$750 total	\$ 2,050.00	
Mitchell, B. CRSP meeting in E. Africa. Airfare BOS-Nairobi: \$1300. Hotel/M&I \$750 total	\$ 2,050.00	
Subtotal International Travel	\$ 17,090.00	Subtotal International Travel \$ 4,800.00 \$ 21,890.00
TOTAL TRAVEL	\$ 18,090.00	TOTAL TRAVEL \$ 30,615.00 \$ 48,705.00

TRAINING

TRAINING

Conferences & Wkshps.

Conferences & Wkshps.

Annual Research Day, BPKIHS, 1 day 75 participants, Nepali Dept of Pediatrics BPKIHS	\$ 500.00
Mid-Project National Workshop, 100 participants, KTM, 2 days	\$1,000.00 \$ -
Subtotal Conferences	\$0.00
TOTAL	\$ 68,290.00

Annual Research Day, BPKIHS, 1 day 75 participants, Nepali Dept of Pediatrics BPKIHS	\$ 500.00
Mid-Project National Workshop, 100 participants, KTM, 2 days	\$1,000.00 \$ -
Subtotal Conferences	\$ 1,500 \$ 1,500.00
TOTAL	\$ 150,753.00 \$ 219,043.00

GLOBAL LIVESTOCK CRSP

PCE-G-00-98-00036-00, SUBGRANT#:
Budget for 2004/2005 - YR 26- YR 2

Animal Source Foods for Nepali Children

Principal Investigator: Laurie Miller

Institution: Tufts University

Category

Category

AMOUNTS

PREPARED: 3/24/04-MR

GLOBAL LIVESTOCK CRSP

PCE-G-00-98-00036-00, SUBGRANT#:
Budget for 2004/2005 - YR 26- YR 3

Animal Source Foods for Nepali Children

Principal Investigator: Laurie Miller

Institution: Tufts University

Category		Category		AMOUNTS	
USA				Nepal	TOTALS
PERSONNEL			PERSONNEL		
Academic Faculty			Academic Faculty (BPKIHS)		
Miller, L.	%FTE salary/fringe		Singh, R.	%FTE	
PI	15 \$	11,000.00		15	\$ 2,630.00
Gleason, G.			Bhatta, N.	25	\$ 4,109.00
Micronutrients/Nutrition	Cons. \$	2,000.00			
Capello, M.					
Parasitologist	Cons. \$	1,000.00			
Griffiths, John					
Statistician	Cons. \$	4,000.00			
Research Scientists			Research Scientists		
Mitchell, B.			Pakhrin, B.		
Project Manager	\$	17,000.00	Sr. Vet. Consultant	33 \$	3,000.00
Kane, M.			TBN		
Social Scientist	Cons. \$	4,500.00	Field Vet	100 \$	3,000.00
Sherman, D.			TBN		
Veterinarian	Cons. \$	4,500.00	Database Designer	ons. \$	2,000.00
			TBN		
			Sr. Social Scientist	50 \$	5,000.00
Staff			Staff		
Chan, W.			TBN		
office assistant	17 \$	6,000.00	Project Manager	50 \$	7,500.00
			Shrestha, B.		
			Itahari Field Supervisor	100 \$	10,000.00
			Bishwakarma, R.		
			CFO		in kind
			TBN		
			CFO Assistant		in kind
			TBN		
			Statistician	33 \$	2,500.00
			TBN		
			Data Entry	50 \$	3,000.00
			TBN		
			Community Devel. Spec.	100 \$	3,000.00
			TBN		
			DLS-District Vet support	ons. \$	720.00
			Pradhan, R.		
			Business Devl. Spec.	ons. \$	500.00

GLOBAL LIVESTOCK CRSP

PCE-G-00-98-00036-00, SUBGRANT#:
Budget for 2004/2005 - YR 26- YR 3

Animal Source Foods for Nepali Children

Principal Investigator: Laurie Miller

Institution: Tufts University

Category	Category	AMOUNTS
	Chapagain, S.	
	Business Devl. Spec.	ons. \$ 500.00
	TBN	
	4 Field Staff	100 \$ 5,000.00
	Kafle, K.N.	
	Dairy Coop President	10 \$ 250.00
	Nuepane, P.P.	
	Local NGO President	10 \$ 250.00
	K.P. Sharma	
	Business training Spec.	ons. \$ 1,000.00
	Shrestha, H.R., Rai, A.K., Pradhan, A.	
	NARC/NASRI/Tarahara-RARS	10 ea \$ 2,025.00
	Wasti, PC., Krishna, GC.	
	National Nutrition Programme	15 ea \$ 2,000.00
	TBN	
	ICIMoD-Regional Case Study	ons. \$ 500.00
	Shrestha, J.M./Gongol G./Thakuri, K.	
	Zoonoses/DHS/DLS	10 ea \$ 1,000.00
		BPKIHS Staff
	<u>Research Scientists</u>	
	Lamsal, M	
	Biochem/Lab Supervisor	20 \$ 233.00
	<u>Staff</u>	
	TBN	
	Microbiologist	10 \$ 96.00
	dhar Baral, D.	
	Statistician	33 \$ 164.00
	TBN	
	Lab technician	10 \$ 27.00
	TBN	
	Data entry	20 \$ 55.00
	TBN	
	Nutritionist	25 \$ 82.00
	TBN	
	Ped HO	30 \$ 123.00
	TBN	
	Accountant	25 \$ 329.00

GLOBAL LIVESTOCK CRSP

PCE-G-00-98-00036-00, SUBGRANT#:
Budget for 2004/2005 - YR 26- YR 3

Animal Source Foods for Nepal Children

Principal Investigator: Laurie Miller

Institution: Tufts University

Category		Category	AMOUNTS	
Subtotal Personnel	\$ 50,000.00	Subtotal Personnel	\$ 60,593.00	\$ 110,593.00
SUPPLIES AND SERVICES		SUPPLIES AND SERVICES		
Communications	\$ 2,000.00	Communications	\$ 3,300.00	\$ 5,300.00
Mailing	\$ 2,000.00	Mailing	\$ 3,750.00	\$ 5,750.00
Office Supplies	\$ 3,000.00	Office Supplies	\$ 4,500.00	\$ 7,500.00
Project Supplies	\$ -	Project Supplies		
		Med lab assays, Vet lab assays, Quality assurance, cultures	\$ 26,575.00	
		Albendazole- antihelminthic for children	\$ 20.00	
		Sandals-Hookworm prev/phleb incentive	\$ 240.00	
		Training education and orientation material	\$ 6,300.00	
		Animal Costs- poultry, fish	\$ 500.00	
		Vet supplies (vaccines, medications)	\$ 500.00	
Subtotal Supplies	\$ 7,000.00	Subtotal Supplies	\$ 45,685.00	\$ 52,685.00
EQUIPMENT		EQUIPMENT		
Subtotal Equipment	\$ -	Subtotal Equipment	\$ -	\$ -

GLOBAL LIVESTOCK CRSP

PCE-G-00-98-00036-00, SUBGRANT#:
Budget for 2004/2005 - YR 26- YR 3

Animal Source Foods for Nepali Children

Principal Investigator: Laurie Miller

Institution: Tufts University

Category	Category	AMOUNTS
TRAVEL	TRAVEL	
<u>Domestic</u>	<u>Domestic</u>	
	All	
	Ground transportation in KTM and Itahari, including driver, vehicle maintenance, petrol	\$ 19,565.00
Miller, L.		
Amer Acad Pediatrics, 5 d		
RT Airfare BOS-SFO, \$350; hotel \$90/day; M&I \$60/d	25 Roundtrip flights between KTM and Itahari \$3000, per diem costs \$2250 (\$15/day ~75 days each city)	\$ 5,250.00
	Exec Com mtgs 4/yr; Stakeholder Com mtgs 2/yr, Sector Workgrp mtgs 2/yr	\$ 2,000.00
Subtotal Domestic Travel	Subtotal Domestic Travel	\$ 26,815.00
		\$ 27,915.00
<u>International</u>	<u>International</u>	
Miller, L.	Academic travel BPKIHS doctors European or American Ped Mtg	\$ 5,000.00
Project Supervision - 30 days.		
RT Airfare from BOS-KTM, \$1600; hotel: \$20/day 10 days in KTM, \$5/day 20 days in field; meals: \$35/day		
Miller, L.		
Project Supervision - 11 days.		
RT Airfare from BOS-KTM, \$1600; hotel, \$20/day for 2 days KTM \$5/day for 9 days in field; meals \$35/day		
Mitchell, B.		
Project Supervision - 30 days.		

GLOBAL LIVESTOCK CRSP

PCE-G-00-98-00036-00, SUBGRANT#:
Budget for 2004/2005 - YR 26- YR 3

Animal Source Foods for Nepali Children

Principal Investigator: Laurie Miller

Institution: Tufts University

Category	Category	AMOUNTS	
RT Airfare from BOS-KTM, \$1600; hotel: \$20/day 10 days in KTM, \$5/day 20 days in field; meals: \$35/day			
Kane, M. Consulting -11 days. RT Airfare from DCA to KTM, \$1600; hotel \$20/day for 2 days KTM, \$5/day for 9 days Dharan; M&I \$35/day	\$ 2,070.00		
Sherman, D. Consulting -11 days. RT Airfare from BOS to KTM, \$1600; hotel \$20/day for 2 days KTM, \$5/day for 9 days Dharan; M&I \$35/day	\$ 2,070.00		
Subtotal International Travel	\$ 12,110.00	Subtotal International Travel	\$ 5,000.00 \$ 17,110.00
TOTAL TRAVEL	\$ 13,210.00	TOTAL TRAVEL	\$ 31,815.00 \$ 45,025.00

TRAINING

Conferences & Wkshps.

	\$ -
	\$ -
Subtotal Conferences	\$0.00
TOTAL	\$ 70,210.00

TRAINING

Conferences & Wkshps.

Project Conclusions: Final National Workshop, 2 days 200 participants	\$ 2,000.00	\$ -
Annual Research Day, BPKIHS, 1 day 75 participants, Nepali	\$ 750.00	
Subtotal Conferences	\$2,750.00	\$ 2,750.00
TOTAL	\$ 140,843.00	\$ 211,053.00

PREPARED: 3/24/04-MR

BUDGET JUSTIFICATION

On average, 66% of funds available for project implementation will be spent annually in Nepal (Year 1: 65%, Year 2: 69%, Year 3: 67%) and only one-third will be spent in the U.S. Indirect costs in the U.S. are calculated at 25.5% and in Nepal at 12%. All funds allocated to Nepal will be managed and distributed by HI/N. Accounting clerks in Itahari and at BPKIHS will report to financial managers at the HI/N office in KTM.

Nepal Budget

Project Management and Core Field Staff— Project management will be shared between HI/N in KTM and a field office in Itahari. A half-time Project Coordinator based in Kathmandu will liaise with various government agencies (NNP, NARC, NASRI, NHRC, HMG-Nepal), HI/N staff, partner NGOs (ICIMoD), supporting organizations (USAID-Nepal, UNICEF-Nepal, UNDP-Nepal), U.S. consultants, and Tufts University. A full-time field supervisor based in Itahari will oversee and coordinate project activities in the field (Ms. Babita Shrestha). A full-time Community Development Specialist will oversee training, education and surveys in households and women's groups. 4 field staff members will carry out this work. A data entry specialist will be hired. A database designer and statistician will be hired on contract to facilitate data collection and analysis. Four desktop computers @\$1300 each (Pentium IV-Acer, 700MHz, Intel Processor, 64Mb RAM, Printers (3) (Cannon BJC-2100SP) and one laptop Pentium IV IBM A31 P (\$1000) will be purchased. One computer will remain in the KTM office, the remainder will be distributed to the Itahari field office, dairy co-op, and BPKIHS. Office space, internet access, cell phones and office supplies will also be needed.

Veterinary/Agriculture Development - These activities will facilitate new and more productive livestock enterprises at the household level. Animals, rearing materials, veterinary assays and veterinary supplies (antibiotics, vaccines, anthelmintics, syringes) will be purchased. A poultry incubator (Sportsman Circulated Air Incubator with Electric Thermostat, Capacity 276 large chicken eggs, Nasco Agricultural Sciences # Z14571N, \$500) will be purchased to raise chicks at RARS for distribution. A full-time field veterinarian will work with participating households and provide technical assistance and training, collect relevant data, and serve as the ground person for livestock related activities in the project. Dr. Bidur Pakhrin, a senior HI/N veterinarian, will supervise this individual. Advice and technical assistance will be provided by a number of government collaborators from NARC, the Ministry of Health, and the Sunsari district livestock offices. Microbiologic cultures will be available at a subsidized rate through the Department of Livestock Services.

Business development- Business development specialists will assist the co-op and its members in identifying new markets and products. Lotus Opportunities (R. Pradhan, S. Chapagain) will collaborate with co-op managers to conduct market research and analysis in Itahari. K.P. Sharma will work with the Community Development Specialist, women's groups, and co-op members to enhance numeracy, basic banking, accounting, and record-keeping skills. The co-op president, K.N. Kafle, and the local NGO president, P. Nuepane, will spend 10% time on expanded record-keeping and administrative duties associated with co-op based project activities.

Training, education, orientation material Funds are allocated under "Project Supplies" for the development, preparation, and dissemination of educational and other project-related material to household participants, the co-op, and the community. Material will also be used in workshops, meetings, and training sessions. This line item includes the cost of hiring a local media firm to design these materials. National Nutrition Programme (P. Wasti, G.Krishna) staff will assist in these efforts.

Social Science A senior social science consultant (50%) will be involved in many project activities, including PAR, survey design, gender awareness, and staff training. In collaboration with ICIMoD, a case study will examine the role of gender in household purchasing decisions with an emphasis on food. ICIMoD will then extend this case study to one or more countries in the Hindu Kush Himalaya area.

Medical – BPKIHS has generously subsidized a considerable portion of the medical expenses of this project, including salary and laboratory support. The project budget will cover remaining expenses of participating physicians and laboratory personnel, supplies, and equipment. Dr. Singh will provide 15% of her time for project oversight and supervision. Dr. Bhatta (25%) will provide day to day supervision of the Ped HO and will coordinate all project activities, including logistics, laboratory analyses, and statistical analyses. Both pediatricians will develop, organize, and conduct the orientation course for the Ped HO, and select participants. They will also supervise small research projects developed by the Ped HOs and their annual Pediatric Research Day at BPKIHS (\$1750), assist the Ped HOs to develop and provide the refresher courses for FCHVs, assist with any severely ill children identified by the Ped HO during project activities, assist with the preparation of documents required for human investigation approval in Nepal. A small stipend is budgeted to cover the expenses of the Ped HO to participate in the project; the remainder of these costs are subsidized by BPKIHS. The Ped HO could be considered “graduate students” by some definitions; this terminology is not typically used for medical trainees.

Additional BPKIHS staff will include Dr. Lamsal, associate professor of biochemistry, who will supervise all laboratory testing for hemoglobin (standard, \$821/batch) and TSH (standard, \$1750/batch), vitamin B12 (Bayer Centaur, \$3500/batch), vitamin A (Behring Diagnostics, \$3500/batch), zinc (absorption spectrophotometry, \$1095/batch) and cortisol (Salumetrics, \$3000/batch) and serve as laboratory supervisor for the project. The clinical microbiologist will supervise all stool analyses (parasites, \$1027/batch, and salmonella cultures, \$342/batch) and malaria screens (standard, \$821/batch) and will develop improved parasite detection methods with Dr. Capello. Both will participate in quality assurance exercises for laboratory testing, and will help the Ped HO develop reliable methods of sample collection and transport. Laboratory technicians will perform these assays under the direct supervision of these individuals. An experienced pediatric nutritionist will assist with the development of the dietary practices survey, ascertain that Ped HOs accurately collect dietary information, and will monitor composition of dietary intake of participating children. The statistician (D. dhar Baral) will coordinate all medical data entry and initial analyses, with assistance from 2 data entry technicians, will assure quality control of data entry, and will work closely with Dr. Griffiths. An accountant will track financial expenditures. Salaries for these individuals are subsidized in large part by BPKIHS.

An office will be designated for project coordination activities. Stationery and miscellaneous office supplies are also needed. Remaining office expenses are subsidized by BPKIHS.

Anthropometric equipment for field use (SECA, Delhi), includes WW Balance beam scale QMFS (\$209), 6 Myo tapes CM/IN (\$77.70), Seca baby bands (5 pkg@\$65 each, \$325), Lange skinfold calipers (3@\$215 each, \$645), QM Medical Scale 660 (2@\$210 each, \$420), #420Measure-all portable measuring board (3@\$400 each, \$1200), T1380 Dial Baby Scale (3@\$120 each, \$360). Shipping costs are approximately \$870 to Nepal, total amount \$4100.

Laboratory supplies, equipment A -20°C freezer with refrigerator compartment (York, Dharan, \$1400) is required to store samples prior to assay. Miscellaneous reagents, laboratory supplies (glassware and pipettes) will be needed for planned assays. Quality assurance activities will involve splitting samples and sending aliquots to international reference laboratories in Thailand or Japan. The budget includes an adequate amount to address difficulties with laboratory testing. Children will be given albendazole and rubber sandals to reduce hookworm infection and as an acknowledgement for their participation.

Travel and related expenses – These expenses include both transport and per diem costs. Costs include air transportation (estimated 25 flights/year between Biratnagar (Itahari)-KTM \$100 round trip, plus \$20 airport departure taxes) for project consultants, stakeholders, and project partners at various times. Under current conditions in Nepal, air transport is less costly and more efficient than ground transport. In Itahari, field transport will be needed for all project participants. This will be via motorbike or vehicle, depending on activity. Costs include petrol, rental costs (or reimbursement), driver (if needed), and insurance. Rental cost of a suitable 4WD vehicle in Itahari is \$40/d (less costly options will be pursued). Occasional use of HI/N vehicles for project activities in KTM will be reimbursed at standard rates. Academic travel costs within Nepal and Southeast Asia (1 trip each year), and to Europe or U.S. (1 trip in year 3) for Drs. Singh and/or Bhatta will provide the opportunity to present results at medical conferences. Ped HO will travel within Nepal to present at Nepal Pediatric Society and similar meetings. This amount also includes travel for both BPKIHS to travel to the E. Africa GL-CRSP workshop in year 2.

Workshops - Five workshops will be supported with this budget. Two national workshops will be held, one at project midpoint and one at project endpoint. Participants will include staff, consultants, stakeholders, management, partners, relevant government agencies, NGOs, international NGOs, and other interested parties. In addition, Annual Research Days will be held at BPKIHS.

US Budget

Personnel

Dr. Laurie Miller is the Principal Investigator of the project. She will provide overall guidance and supervision of all project activities, coordinate research investigation, and human subjects activities. She will attend Executive Committee meetings 2x each year, and maintain close contact with HI/N and BPKIHS personnel. She will provide monitoring and evaluation of project output on an ongoing basis. She will participate at .15 FTE; \$9000/yr of her salary and fringe benefits is provided by Tufts University School of Medicine as cash contribution. Brad Mitchell, U.S. Project Manager, will be responsible for overall project coordination and logistics, namely insuring that deadlines for project reports are met, activities occur on schedule, and that participants are communicating effectively. He will maintain close contact with HI/N, Veterinary, and Business development personnel, and will attend Executive Committee meetings 2x each year. W. Chan will provide secretarial and administrative support for project activities. Dr. Sherman and Ms. Kane will travel annually to Nepal to meet with their counterparts, develop workplans, review accomplishments, and assist with problem-solving. In addition to their time in Nepal, both consultants will be available annually for 10 days of project work and technical back-stopping from the U.S. Dr. Gary Gleason will assist with the establishment of appropriate data collection and management systems, and will provide technical assistance and back-stopping to the Data Manager. Dr. John Griffiths will supervise the statistical analyses and provide support to the Nepali statistical team. Dr. Michael Capello will assist with quantitative geohelminth assays and develop specific research activities related to this with the Ped HO.

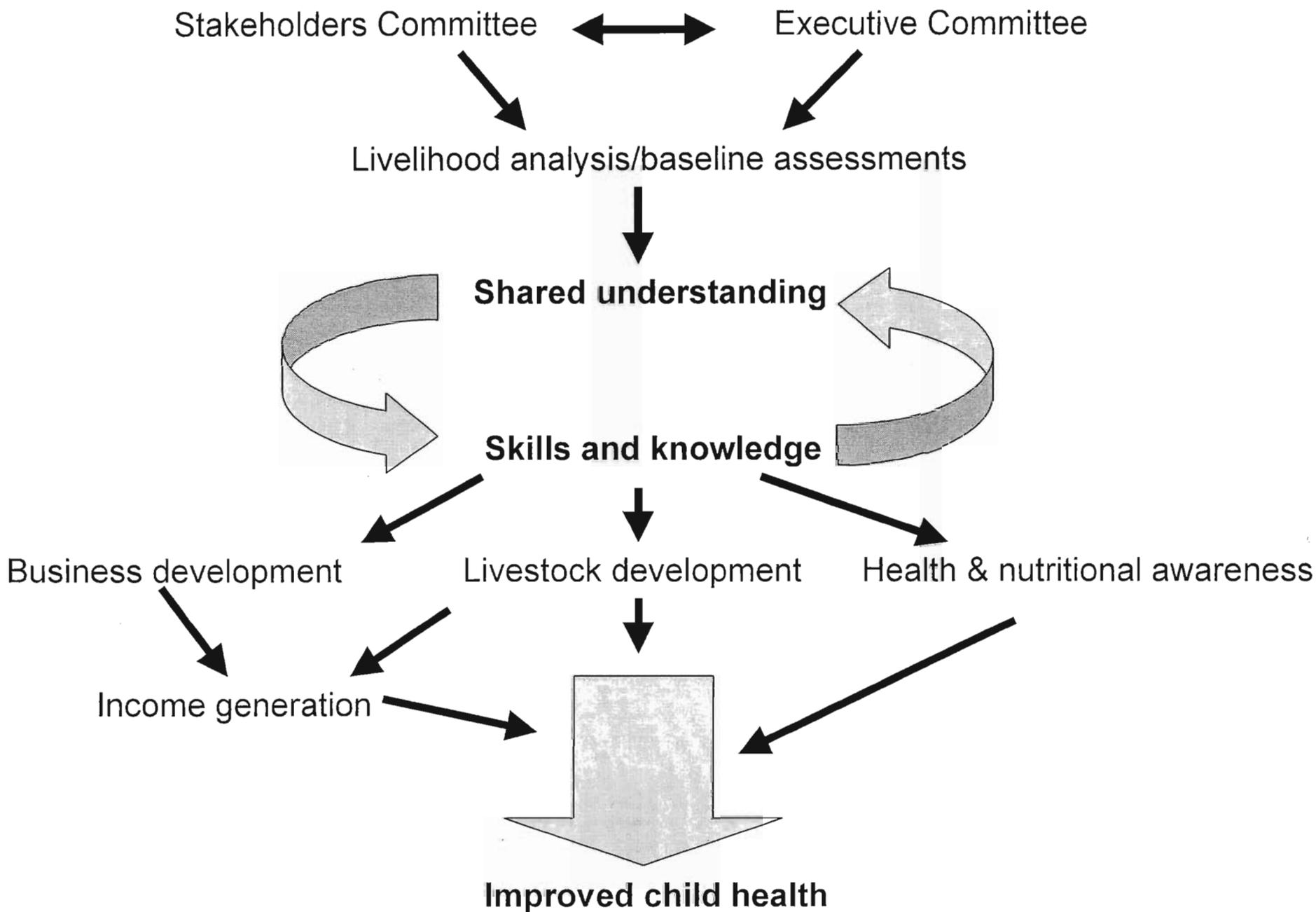
Travel

Travel expenses include U.S.-Nepal airfares (~\$1600/trip including visa and expenses in transit) for 7 trips in year 1, 5 in year 2, and 5 in year 3. Due to flight schedules, one hotel night en route is usually required; these expenses are included in the listed totals for each trip. Travel expenses for American consultants are included on the U.S. side (not the Nepali side) of the budget. Hotel is available in Kathmandu for \$20/night and in Dharan for \$5/night (subsidized rate at BPKIHS guest house). Meals allowances in Dharan will also be provided. Academic travel expenses are requested for 1 meeting per year for the PI to present project results (American Academy of Pediatrics). Other sources will provide supplemental funding for meeting registration expenses. Both the PI and U.S. Project Manager will attend the GL-CRSP workshop in East Africa in year 2.

ANNEXES

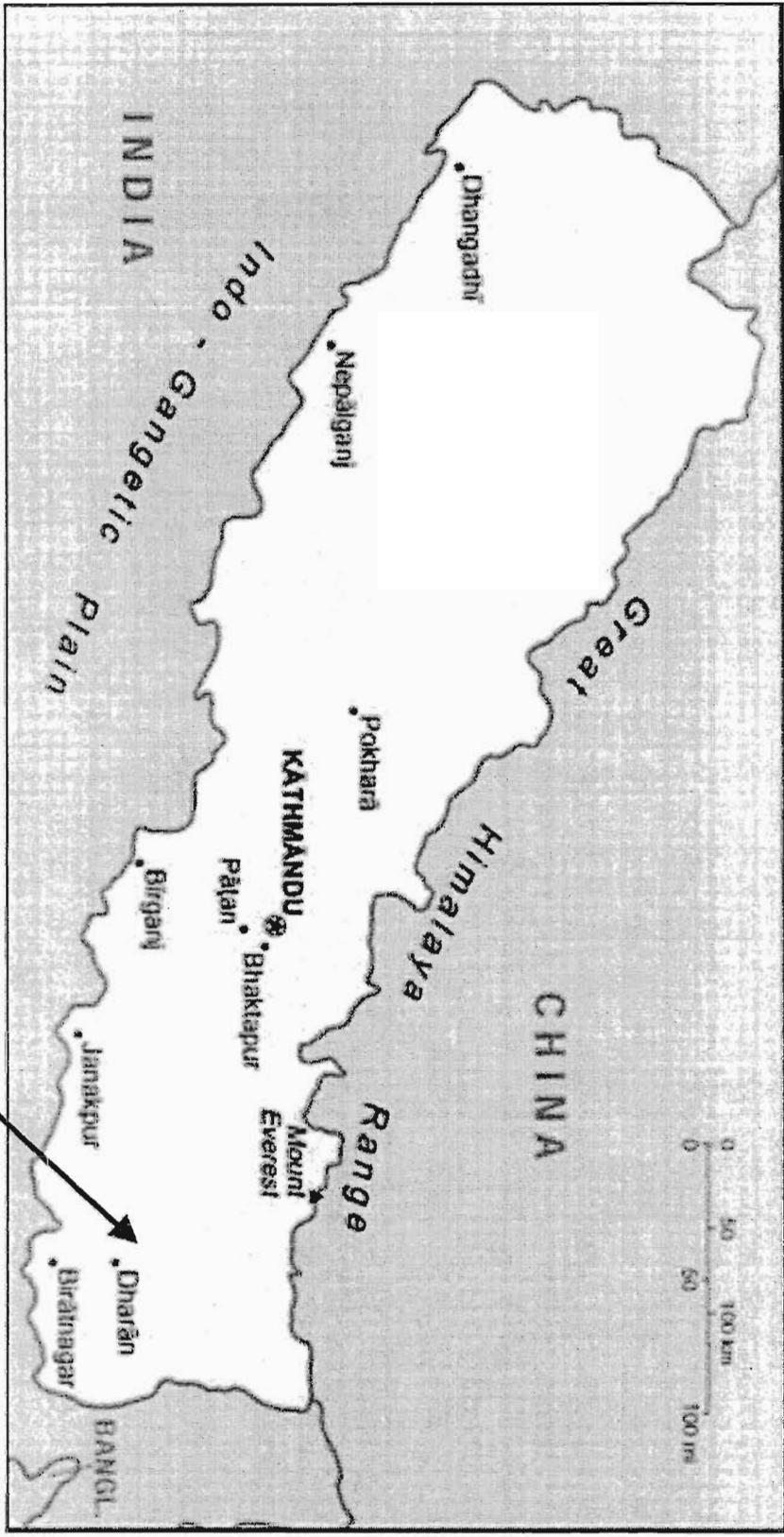
ANNEXES

- 1. Project Overview Schematic**
- 2. Interaction of Project Components**
- 3. Map of Nepal, Project Location**
- 4. Topics for Ped HO Orientation Course**
- 5. Calendar of Ped HO Clinical Assessments and Sample Collection**
- 6. Timeline**
- 7. Training and Capacity Building**
- 8. Selected Photographs from Project Site**
- 9. Relevant Newspaper Articles**
- 10. Glossary**



INTERACTION OF PROJECT COMPONENTS

	Business	Social Science	Health/Nutrition
Social Science	<p>Assess hidden costs of business diversification and expansion (labor, time, etc)</p> <p>Identify women's opportunities for income generation</p> <p>Evaluate current division of labor in household in relation to access and control of resources</p>		
Health/Nutrition	<p>Assess if improved income translates to better health and nutrition</p> <p>Marketing leads to improved ASF sales and use</p> <p>Nutritional marketing messages</p>	<p>Develop dietary survey and health survey, develop health messages, assess effectiveness of health messages, Soc Sci trains Ped HO in gender awareness, community awareness, Assess KAP related to health/ nutrition/ child, Ped HO and FCHV provide health and nutrition awareness training</p>	<p>Determine health and nutritional status of children: Growth, Global Health Assessment, Biomarkers (Hgb, Zinc, Vitamin A, Vitamin B, cortisol), infectious disease burden (intestinal parasites, malaria, other). Relate to household and community interventions</p>
Veterinary Medicine	<p>Introduction of BMPs increase income</p> <p>Reduction in zoonotic diseases increases income</p> <p>Diversification of animal enterprises kept increases income</p> <p>Increased income allows developmt of business planning and investment</p> <p>Healthier animals=safier and more wholesome food=higher income from sales</p>	<p>Assess hidden costs of diversification of animal husbandry</p> <p>Gender issues related to workload and responsibilities</p> <p>Gender differences in KAP related to health</p> <p>Assess KAP related to management practices and zoonoses</p>	<p>Assessment of zoonotic diseases in animals and children, changes over time after introduction of vet BMP to reduce zoonoses</p> <p>Safer food supply improves health of children</p>



Project Area

Topics for Ped HO Orientation

- Holistic approach to medical problems
- Community sensitivity and gender awareness: working with village women
- Introduction to research
 - Ethical considerations in research involving human subjects
 - Basic research methods: data collection, survey methodology, inter- and intra-rater reliability, quality assurance
 - Basic statistics and epidemiological methods
- Malnutrition and micronutrient deficiencies
- Review of common infectious diseases
- Review of zoonoses
- Technical review (including quality assurance):
 - Anthropometric measurements
 - Sample collection and transport (blood, hair, saliva, stool, shed teeth)
- Developing a Health status appraisal questionnaire

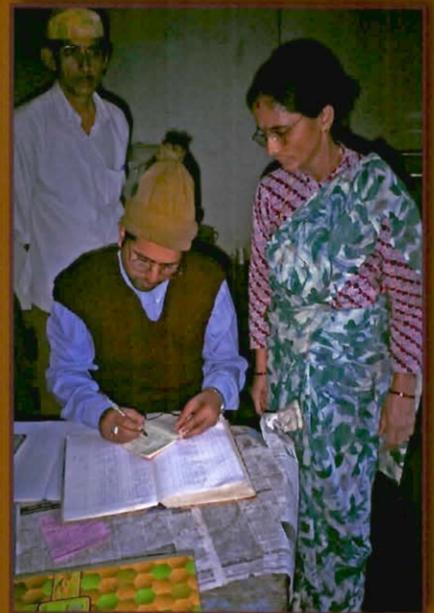
Ped HO ACTIVITIES and SAMPLE COLLECTION SCHEDULE

Month of study	5	8	12	16	20	24	28	32	35
HEALTH ACTIVITIES									
Health hx and PEx	√	√	√	√	√	√	√	√	√
Dietary survey	√	√	√	√	√	√	√	√	√
Growth	√	√	√	√	√	√	√	√	√
Health/nut education	√	√	√	√	√	√	√	√	√
Albendazole given	√				√		√		
Sandals given	√				√		√		
SAMPLE COLLECTION									
Blood									
Hgb	√		√		√				√
TSH	√								√
Vit B12	√		√		√				√
Vit A	√				√				√
Zinc	√		√		√				√
Malaria	√				√				
Stool									
Parasites	√				√				√
Salmonella culture if symptoms	√		√		√		√		√
Saliva									
cortisol	√				√				√
Hair									
Arsenic	√								
Teeth	As avail								

Rationale for collection schedule: Baseline information will include micronutrient status as well as general health information. Hgb will be a proxy for iron status. Malaria screening will be done on all children at baseline, and at 20 mo; additional screening will be done if clinically indicated in individual children. Hgb, B12, and zinc levels will be tested at 12 months to determine if any clinically important changes have occurred since entry. Salmonella stool cultures will be obtained only in symptomatic children. Hair samples will be collected for arsenic determination at baseline; appropriate followup will be arranged for any child found with toxic levels. Shed deciduous teeth will be tested for calcium, iron, and zinc content.

TRAINING AND CAPACITY BUILDING

	Women's groups	Dairy co-operative	Project Staff	Other
Component				
Business	Numeracy, business methods, market analysis, accounting, enterprise diversification, value-added products, microcredit, cost/benefit analysis.	Business methods and operations, market analysis and development (MAD*), accounting, computer skills, enterprise diversification, value-added products.	Business methods and operations, market analysis, accounting, computer skills, training methods	
Social Science	PAR on nutrition and feeding practices, development of health messages, health beliefs.	Assistance with marketing strategies.	Gender and community awareness, study techniques including PAR, case study methods, survey methods, livelihood analysis, basic survey analysis. Specific training on gender roles/income generation/ household roles and child health/ nutrition	<i>Ped HO:</i> Gender and community awareness, community training methods, holistic approach to medical problems <i>FCHVs:</i> survey methods, gender and community awareness <i>VAHWs, veterinary extension agents, and district veterinarians:</i> survey methods, gender and community awareness
Veterinary Medicine	BMPs, methods to reduce zoonoses and improve production, access to technical training related to diversification of animal enterprises (facilitate interactions with VAHWs).	BMPs for dairy sanitation and milk quality.	Methods of animal husbandry practices and zoonotic diseases risk surveys	<i>VAHWs, veterinary extension agents, and district veterinarians:</i> methods of animal husbandry practices and zoonotic diseases risk surveys <i>Veterinary Medicine Working Group:</i> Exposure to multisectoral research and collaboration <i>Ped HO:</i> diagnosis and prevention of zoonotic diseases
Health/ Nutrition	Health messages (including AIDS awareness), hygiene, and nutrition training. Introduction of "Road to Health" concept.	Health messages (including AIDS awareness), hygiene, and nutrition training, "Road to Health". Available to dairy co-operative members and customers from the community. If feasible, radio messages will promote these throughout the community-at-large.	Exposure to pediatric health and nutrition concerns, recognition of linkages between other project components and child health outcomes.	<i>Ped HO:</i> Technical skills for field research including obtaining clinical samples, data collection and management, survey techniques, basic statistical analysis, health education at village level, working with FCHV, sharing knowledge and skills with fellow Ped HO (annual research conference), exposure to multisectoral research and collaboration. <i>FCHVs:</i> Upgrade clinical skills via partnership with Ped HO and attendance at workshop/ orientation (growth measurement, health assessments, sample collection). <i>Laboratory Staff:</i> expansion of technical skills, participation in quality assurance exercises <i>Health/Nutrition Working Group:</i> Exposure to multisectoral research and collaboration



Views from the project site



The Himalayan

ON S A T U R D A Y

OUR FRIEND: Children with their prized possession at Nawalparasi.



Indicating the impact

- "Giving brings more pleasure than receiving"
— Nirmala Nepal

- "I have improved my house, my family gets nutritious food and I have even sent my daughter-in-law to college"
— Bhimi Kumari Aryal

- "Before Heifer, we didn't know what sharing was"
— Leela Tamang

- "We are so happy. Our animals are healthy"
— Anna della Rosa

- "Heifer has restored my hope, my health, and the future of my children"
— Jocinta Anyango (Kenya)

- "I have long been proud of the fine work of Heifer International"
— Jimmy Carter, ex-president, America

- "Every one who receives an animal has to pass on its first offspring to another family in need, creating an amazing ripple effect. I like that"
— Susan Sarandon, Hollywood actress and social worker

- "My family and I suffered so much. When we received our four goats and learned about passing on the gift, I could not imagine it was me who would help end the suffering of another"
— Alves Mangagao (Mozambique)

- "I have suffered a lot in my life. I did not even have the chance to hold a pen and paper in my childhood. But now, I am very happy that my daughter will not have suffer like me because she has received Heifer's support to study this year and I won't let her stop studying in the coming year also because I have goats from Heifer"
— Mina Nepali



Vegetable farming project participants.

Gift a smile

Give a man a fish and you feed him for a day, goes the popular saying, teach him how to fish and you feed him for life. The Heifer project took this seriously and today a million and more smiles have proved them right

(Continued →)

Saroj Yadav
Kathmandu

Hunger and poverty are conditions that developing countries always make plans to eliminate, always very unsuccessfully. But instead of giving a cup of milk, providing a cow to the needy makes more sense. This was the motto with which Dan West established the Heifer Project International in USA in 1944. Since then, it has become a thriving project that has changed the life of people throughout the world.

The mission is to work in partnership with others to end hunger and poverty and care for the earth through the sharing of livestock and knowledge. Heifer Project International (HPI) began work in Nepal in the 1950s after importing some livestock. The aim of these shipments was to introduce high yielding genetic material of dairy, cattle, sheep, and pigs into the native animal population, while maintaining pure breed lines at the government livestock breeding farms. Now Heifer operates in 47 countries and they love to call themselves as the Heifer family.

Heifer partners work with community groups, then form a development plan with specific goals. Partners learn how to care for animals and grow crops in ways that can be sustained for future generations. Heifer provides expertise in animal health, water quality, gender equity, environment and community development. Its unique feature is the 12 courses, which changes thoughts, attitude and behaviour of people. These courses are the foundation of Heifer throughout the world. All organisation and farmer groups are screened, monitored, and evaluated according to these principles, and project groups base their plans on them. An important part of Heifer's mission is to help people understand the root cause of hunger and planning is developed according to the need of the country. Every family who receives an animal signs a contract to pass on the first female offspring to another family in need. Families also agree to pass on the training and the skills they have acquired. This is the basic working system of

the Heifer and it is called 'Passing on the Gift'. The Pass-on system increases dignity in participants. In this way, from one activity it touches many lives and develops a positive bond among the people. Heifer believes that training and education makes it possible to achieve rapid and sustainable change in communities. Through these activities, many participants have even learnt

They believe in giving satisfaction to the heart. Some people have donated all their property to this organisation and are now working as a volunteer. Terri Whitehouse is one of them. For moral support, it provides Golden Talent award to outstanding participants, who show the best utilisation of the received gift. Whatever methods are used, the ultimate goal is to change people for the better and de-



A housewife tends to a kid she received from a neighbour.

to read and write at the age of 50. Since 1993 to 2002, more than 2,166 families benefited from Heifer Project Nepal (HP-N).

The strongest impact of this project is that it binds the people emotionally and it changes the people psychologically to develop a positive attitude even in adverse conditions. Now, there are more than 1,000 volunteers working with this organisation throughout the world.

develop confidence that will encourage self-reliance. There are many successful stories throughout the world including Nepal and the impact it has left is surprising.

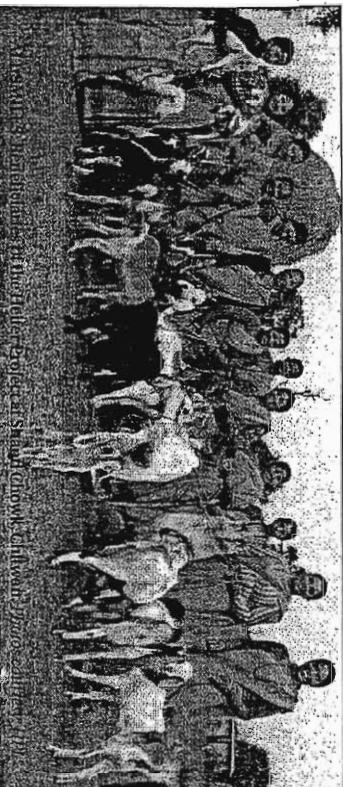
A large number of renowned personalities also work voluntarily with this organisation and this is proof that humanity, a family environment still exists. This project has changed many lives for the better.

MEASURING THE MEANS

- Livestock distributed as goat: 3,248
- Water buffalo: 171
- Pig: 117
- Rabbit: 158
- Sheep: 15

TRAINING

- Technical & management
- HPI-N: 4,163
- Project partner conducted: 23,753
- Adult literacy: 26,160



Members of the Heifer Project International are seen in a group photo in Kathmandu, Nepal.

Land entitlement patterns

MANASA THAKURATHI

Emphasis has often been placed on women's employment, wages, and access to education and health facilities, in order to bridge the gender gap. However, the prevailing gender relations emanate, among other things, from the inequality in property ownership. In rural agrarian Nepali society, status is primarily determined by land ownership. Ownership of land acts as a shield against discrimination, and as a means to enhance status in households. For women from poor households, land ownership also works as a shield against vulnerability of various sorts. National Labour Academy-Nepal has recently conducted a study for ILO and has analysed patterns of land entitlement by gender, in Nepal.

Population Census (2001) information on land entitlement by gender at household level by district reveals extremely low incidence of women's land entitlement. Women have some land in their name in only 14 percent households. There is a marked variation across regions and districts. The incidence of women's land entitlement declines sharply when one moves from east to west. Women own land in their

name in 21 percent households in eastern region. In the far-west region, women have land entitlement only in four percent households. Similarly, in some districts such as Kathmandu and Kaski, which are relatively urbanised, women own land in over 30 percent households. In contrast, in districts such as Darchula, Bajhang, Humla



Nepali women

and Bajura, women have land entitlement in less than two percent households. The information leads one to speculate a strong positive link between the status of women and land entitlement. The status of women is low in the districts where women's entitlement is low.

Information derived from land ownership certificates from Kathmandu, Ilam and Kailali districts

reveal that women's land entitlement is consistently higher in urban areas compared to the rural areas. In Kathmandu and Ilam, women own land in more than 30 percent households. In the rural areas of the study districts, women have land entitlement only in about 20 percent households. By caste and ethnicity, among Brahmin and Chhetri women, land entitlement is higher in urban areas (29%) compared to rural areas (20%). Women's land entitlement in rural areas is higher among Dalits, Nationalities, Newars and Terai castes.

Analysis of land transfer patterns confirms that there is no distinct trend ensuring increasing land entitlement among women. Of the total land transaction in Ilam, Kathmandu and Kailali, 17, 25 and 14 percent respectively were from male to female in 2002. Five years before also, the pattern was the same.

Micro level information collected through Focus Group Discussions shed light on the reasons for low level of land entitlement among women. The legal framework governing land ownership and transfer is not women-friendly. Land related dealings in government offices and

courts are cumbersome, and women burdened with domestic workload are considered not fit for such dealings. Also, there is a fear among the family members that if women marry another person, the family will be deprived of land kept in women's name. However, there was a consensus in FGDs that land entitlement increases the sense of security and equality. It provides basis to withstand/oppose discrimination in the family. It helps to have access to credit, and it also puts a curb on land sales by the male members without the consent of women.

Given the overwhelming importance of land in shaping the status of women and gender relations, land entitlement among women should be encouraged by legal arrangements as well as incentives. The government should, by manipulating land tax and cost involved in land transaction, encourage a gradual transfer of land in women's name. Employers' and workers' organisations should work for gender equity in land entitlement, mainly by creating awareness, and generating pressure on the government for creating environment for gender-equal land entitlement. To add to the advocacy drive and policy reorientation, research on the related issues, such as control and use of land by gender, public land distribution and gender, and implication of various incentive programs favoring women's land entitlement are also essential.

Arsenic contamination puts Terai residents in peril

BY SUVECHA PANT
GOINI, Nawalparasi, March 8

In this typical ramshackle Terai village in west Nepal, not very far from Lumbini, the birthplace of Lord Buddha, people have stopped using their shallow tube wells. The reason: all the tube wells have an excessively high concentration of arsenic. And after the reality came to the fore two years ago, the 100-odd households have stopped drinking the water from the tube wells.

Now, they collect water from three dug wells in the area. But, this is not enough to go around. Joint families of up to 20 people live under the same roof, not to talk about the cattle that share the same home.

On top of this, kids and elderly people alike defecate in the open, and the sanitation problem here is acute.

It was with the installation of tube wells over a decade ago that sanitation facilities saw a slight improvement. But now, water from these 70 or so tube wells is undrinkable, as they are contaminated with arsenic.

The people are aware of the ad-

verse negative impacts of arsenic on health, but they are in need of an alternate source of water. And the sooner it happens, the better.

Although there have been low-scale arsenic filters distributed in this village, they are not enough.

Amar Jit Chaudhary says he is not happy with the arsenic filters. "The filter provides enough water for our family on a daily basis, but when we either have a social event or when relatives come over, the water is insufficient," he said.

In nearby Kunuwar village of Ramgram municipality, the plight of the villagers is no different. The 110 households have just one dug well as a source of drinking water. Before, there were 70 pumps in the area.

"We were given a three-layered filter, but we have not used them because it takes a lot of time to filter the water," said Bindu Mar, showing the unused filter in his kitchen. He added that the only public well remains crowded with people waiting to fill their water pots from early in the

morning to late at night.

"How can we make do with only one filter when we have a joint family of 15?" questions 33 years old Gyan Prasad Kami. "Even by using the filter, our water was found to have more than drinkable levels of arsenic."

"They haven't even given us medicines. Maybe we can be cured by medicine?" he inquires showing his chest and back, which have black marks - the tell-tale signs of how regular consumption of arsenic-contaminated water for the past 15 years has affected him.

An ongoing study by the United Nations Children's Fund (UNICEF) and the Department of Water Supply and Sanitation (DWSS) indicate that the groundwater in almost seven percent of the tube wells in the Terai region is unsafe for drinking. This means that seven percent of the population is in immediate need of an alternative source of drinking water.

But that's much easier said than done.

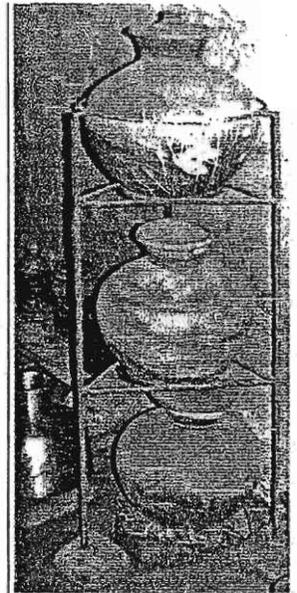
"People might boil water to get rid

of arsenic. But it only serves to increase the concentration of arsenic. Moreover, 50 percent of the drinking water has been found to be microbiologically contaminated - which could cause waterborne diseases," says Madhav Pahari, a UNICEF official.

The National Arsenic Steering Committee plans to provide safe drinking water first to deprived communities, then schools and health institutions. A mass scale campaign will then be launched covering both private and public tube wells.

Mitigation measures include sharing of safe tube wells, improvement of out-of-use dug wells, using alternative techniques like rainwater harvesting and digging tube wells in aquifers that are safe.

"We are sick and tired of hoping for a solution to our problems," says Ditya Mani Pokharel of this village in Sarawal. "We fear drinking the water, but then immediate solutions are nowhere in sight. How long can we wait?" he questions.



This arsenic filter system has remained unused in Kunuwar village.

POST PHOTOS/USA

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Arsenic threat gets real in Terai belt

BY SUVECHA PANT
BIRGUNJ, March 8

An ongoing study aided by the United Nations Children's Fund (UNICEF) on arsenic content in water in the Terai belt is uncovering a problem bigger than it was previously thought to be.

According to Madav Pahadi, project officer at the Water and Environment Sanitation Section of UNICEF, the unfolding results show that between three to seven per cent of the Terai population will be immediately affected by arsenic contamination. "Strong mitigation measures need to be launched in this population," said Pahadi.

The study, being carried out jointly by the UNICEF and the Department of Water Supply and Sanitation (DWSS), is expected to get completed by April end.

The blanket testing, which includes both public and private tube-wells, will test 300,000 tube-wells in the Terai region. Already 200,000 tube-wells have been tested thus far.

Each tube-well in the eight Terai districts - Nawalparasi, Saptari, Siraha, Sarlahi, Rautahat, Parsa, Kapilvastu and Kanchanpur - are being marked to ascertain the safety of the drinking water. Their positions have also been marked through global positioning system (GPS).

The problem of arsenic content is not uniform even within the districts under study, though. According to the

UNICEF field monitors, the level of arsenic content vary from zero to as high as 500 part per billion (ppb) in the same locality.

The national standards for arsenic in water is 50 ppb and the World Health Organisation (WHO) recommended standard is 10 ppb. "Arsenic may be found in water that flows through arsenic-rich rocks," said Sudan Panthi, Chief Engineer at the Water Quality Unit, DWSS.

The DWSS is now in the process of cross checking the water from the tested tube-wells in the laboratories. Once these reports come in, then a national document will be prepared on the arsenic contamination, followed by immediate mitigation measures in the most affected areas.

Rajesh Shrestha, a field monitor in Nawalparasi district, said that about 15 per cent of the tube-wells in election constituency three and four have arsenic content beyond drinkable limits. In the election constituency four, the percentage reaches 18 per cent. Moreover, in the Goini community and in Pratapur village in this district, all the tube-well water has been found to have arsenic content beyond the permissible limit.

Dhruba Shrestha, field monitor of Kapilvastu district, said that around three per cent of the tube-wells have been found to have undrinkable water.

Similarly, Padmaja Shrestha, field monitor of Parsa Dis-

trict said that 2.1 per cent of the tube-wells tested in this district have arsenic contamination that is above national standards.

She also said that in Basantapur and Muli up to 23 per cent of the tube-wells have high arsenic contamination of up to 500 ppb. Shrestha also informed that Bara district has been affected more severely with 11 per cent of the total tube-wells containing above 50 ppb.

In Tharanagar village of Bara, she said, 50 per cent of the tube-wells have high level of arsenic content.

Drinking arsenic-rich water over a long period results in various health problems including skin problems (such as color changes on the skin, and hard patches on the palms and soles of the feet). It can also lead to skin cancer, cancers of the bladder, kidney and lung, and diseases of the blood vessels of the legs and feet. Diabetes, high blood pressure and reproductive disorders are also sometimes associated with arsenic consumption.

Mitigation measures are already underway in the Terai districts, although in small scale. The ongoing schemes like sharing safe tube-wells, arsenic filters and using improved dug wells are already making impact but they won't be adequate enough to meet the needs of the people.

"We hope that this report will trigger strong mitigation measures in the most affected areas," said Pahadi.

Kathmandu Post 3/7/04 p 8

BOOK REVIEW

Tips On Keeping Zoonotic Diseases At Bay

Book: *Zoonotic Rogharu: Janaswasthya Samasya* (Zoonoses- Public Health Problem), Author: **Dr. Jeetendra Man Shrestha**; Publisher: Epidemiology & Disease Control Division; Department of Health Services (HMG), Pages: 106

Project Consultant

By Bhimsen Thapaliya

AT A time when the outbreaks of SARS and Bird Flu are causing global concerns, it is high time people in the public health sector inform, educate and prepare the common people to prevent the spread of the diseases caused and transmitted through animals and birds. Such diseases have emerged as one of the great risks. These ailments should not be seen from a limited perspective as the consequences they invite are of global scale. Therefore, medical research on this subject needs to be conducted at the universal level. Outbreaks of such diseases cause widespread health risks as well as great economic losses because both animals and humans are victims.

Diseases that are prone to be communicated between human beings and other vertebrate animals are called Zoonoses. More than 300 such diseases have been identified that can be transmitted in such a way. As human civilisation has close links with animals and birds in one way or other, there is always the risk of zoonoses. Health risks from zoonoses have become more apparent in the last two decades more than ever before. This has prompted the people in the public health sector to pay serious attention for the prevention and control of diseases. As zoonoses cause local as well as



global problem, measures should be taken by world level agencies as well as individual countries to control such diseases.

Coming of this book, a government endeavour supported by World Health Organisation (WHO),

is timely and welcome as it will not only serve as a useful manual for related health personnel but will also create awareness among the general people. Efforts geared towards cautioning people against such diseases and publicising the methods of prevention in turn can keep them aloof from the possible risks. Among others, environmental pollution, lack of waste management system at animal product plants, increased mobility of people, growing commercial use of animal products are heightening the zoonoses risks. Rising population of domesticated and pet animals, spread of virally infected mosquitoes and certain cultural habits leading to more contacts with animals are also responsible factors.

Rabies, Plague, Anthrax, Brucellosis, Leptospirosis, Listeriosis, Echinococcosis, Leishmaniasis, Cysticercosis, Bovine Tuberculosis, Tape Worm and Japanese encephalitis are some zoonoses of frequent occurrence. People get infected with them when they come into contact with contaminated animal products and the infected animals.

If we look back, over 12 million people have been the victim of Plague since 1262, the book says. Rabies still remains a common health threat. Estimates reveal that annual rabies deaths stand at 35 thousand and two

million people get rabies vaccine after animal bites. The seasonal outbreak of Japanese encephalitis is also a major public health threat. This disease takes many a precious lives every year. More than 85 percent people in Nepal live in the rural areas where one of the main occupation is animal husbandry. People in these areas naturally come into frequent contact with animals and are thus more vulnerable to zoonoses. As the people are poor and access to health facilities is limited, the problem has emerged as serious and challenging.

The book, starting with the introduction of zoonoses proceeds by analysing them as global problem and classifies them with respect to the method of communication, types of affecting germs and host animals. Factors increasing the risks of zoonoses are also described. Then the book lists 12 common types of diseases caused and communicated by animals in detail. Rabies, the commonest one has been dealt with extra elaboration. Rabies appears at the beginning and covers almost one-third of the book. The ensuing topics are probably listed in decreasing order of risk and occurrence. Each disease is described in detail such as historical aspects, causes and risks, incubation period, epidemiology, communication cycle, animals and insects responsible, symptoms, treatments, prevention and control measures. Colour pictures have been used to illustrate how the diseases originate and spread.

Though the book has rather a clinical approach of presentation, general readers can also benefit significantly from the book besides, of course, the health workers and vets. If this book reaches the right hands (health workers, social workers, teachers, medical students, social leaders across the country) notable achievement will be made in prevention and control of these fatal diseases.

Kathmandu Post 3/25/04

Kathmandu Post 11/30/03 p 9

People of Kapilvastu consuming unhygienic meat

POST REPORT
KAPILVASTU, Feb 24

Local consumers in this district have no option but to consume the unhygienic meat as the roadside butchers are never serious over maintaining necessary sanitation to protect the meat in their stalls.

According to a primary data, the locals here consume annually about one thousand tons of meat. However, there is not a slaughterhouse that ensures the sanitised flesh.

"Plan of the Kapilvastu Municipality to build a slaughterhouse has been limited to papers due largely to the lack of implementation," says Gopal

Bhandari, a local consumer.

Devendra Lamichhane, an official at the District Livestock Office (DLO) agrees that the government and local government are not serious over the construction of the slaughterhouse "As per Slaughterhouse and Meat Inspection Act 2056 BS, there is a legal provision for such matters. But it is yet to come in action," says he.

The latest statistics of the DLO reveals that 66 per cent of the total meat vendors are engaged in the selling buffalo-meat while eight per cent of them sell mutton. And, remaining others are involved in pork and chicken meat selling.

Meat sellers do not follow hygienic practice

POST REPORT
KAPILVASTU, Nov 29

The people in the district are compelled to consume unhygienic meat, as the butchers are selling meat unsystematically in their mobile shops.

Till now, no slaughterhouse has been constructed in the district to sell hygienic meat, where as much as 2,000 metric tons of meats is consumed annually.

The main cities of the district consuming meat include Kapilvastu Municipality, Jitpur, Gorusinge, Chandrauta, Krishnanagar and Barohiya.

There are around 100

butchers in the district, but none of them has used modern equipment, including freeze to keep the meat clean and fresh.

The locals said that no concerned sector has paid attention towards systematising the meat sale of the district. The unhygienic meat sold in the district has created health problems, they said.

"Only if the concerned sector cautions the butchers to sell hygienic meat, the problem will be solved to a great extent," said Gopal Bhandari, a local consumer.

Earlier, Kapilvastu Municipality had decided to construct

a slaughterhouse to provide hygienic meat to the locals. However, the decision has not yet been implemented.

Referring to rising unhygienic sale of the meat in the district, Devendra Sharma, an official of the District Livestock Office, said that the problem has arisen, as the butchers do not abide by the Slaughterhouse and Meat Inspection Act.

"The office is to introduce various programmes in the district to ensure full implementation of the Act and generate public awareness," he informed.

India: Competing with foreign milk

MIRRA SAVARA

It is a familiar sight for most of us: a woman milking her cow or buffalo just outside her village home. The National Dairy Development Board (NDDB) claims in a recent television advertisement that a million women in India make a living out of dairy farming.

There are approximately 10,492 all-women dairy co-operatives in the country today, helping several rural women become self-reliant. The dairy industry in India supports about 80 million small farming households.

The objective of WTO (World Trade Organisation) is to facilitate free movement of goods (agricultural and industrial) and services across the globe through mutually negotiated agreements.

Once the WTO norms are implemented, the women will have stiff competition from foreign milk and dairy products and their livelihoods would be threatened. The WTO-led liberalisation will, in a way, force the village woman to think global - in terms of quality, marketing and pricing of the milk.

At a recently-held workshop organised by Metric Consultancy, a research and training consultancy firm based in Pune, and attended by 10 Maharashtra-based milk unions, women discussed various ways to face the challenges WTO will pose.

Said Savita Kotker from the Akole Milk Union, "Under WTO, we expect that there will be increased import of milk from other countries. Indian milk will face great competition as the foreign milk will be of better quality. Also, if India needs to enter the international milk market it will have to meet the quality norms of WTO - quality is crucial both ways."

Quality refers to the bacterial count in the milk, something that Indian producers are careless about and consumers are not really aware

of. In India, only the fat content is tested by milk producers.

The current level of bacterial count in one millilitre of milk, when it reaches the processing plant from the home of a woman, is generally

the udder of the animal before milking. "The utensils in which they collect the milk have to be washed with soap and water. The containers in which they take the milk to the cooperative office need to be cleaned daily," said Sonavane at the workshop. Several women who came to the workshop act as instructors in their

their every day behaviour involves an entire process of empowering women," says Dr Ameeta Deshmukh, Managing Director of Metric Consultancy. "It is not only about providing information. Women and men need to be motivated to make the changes."

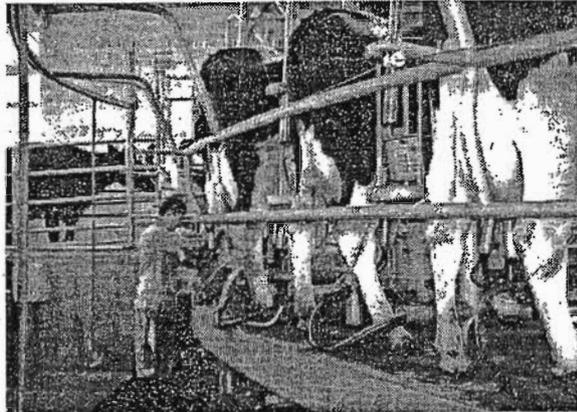
NDDB, through its Enhancing Women's Involvement in Cooperatives programme, intends to increase women's participation in co-operatives, as members and leaders. Milk unions from Maharashtra have already started focussing on enhancing women's leadership skills, promoting thrift and credit groups as well as health, education and economic activities.

"Developing credit groups has been a very effective way of empowerment since it brings women together regularly and involves them in discussions about many things, including problems in their lives," said Kotker. "It also inculcates a habit for saving and helps women access credit services. This has led to increased confidence and self-esteem. They are extremely eager to improve the quality of their lives. The issue is to get them to understand how some of the ways in which they collect, store and transport milk affects the milk quality."

The participants felt that unions should evolve a strategy to identify and address quality-related problems at every stage - from the producer at the village cooperative to the dairy plant and distributor and finally to the consumer.

At the workshop, union members also discussed the need for mechanisation in dairies. To adhere to the WTO specifications, the Indian dairy industry will also need to invest in infrastructure, through the efforts of co-operatives or corporate sector interventions.

(Women's Feature Service)
KP 257 4/29/03



in the range of 15-30 lakh. After pasteurisation, the bacterial level comes down to 30,000-50,000. The milk from countries like New Zealand has very low bacterial count. "Improving milk quality is intimately related to the conditions under which milk is collected and stored, and this is usually the work of women," said Rohini Sonavane from the Akluj Milk Union.

Sonavane referred to the lack of hygiene amongst most dairywomen while milking animals. For instance, many women milk the animals without washing their hands and sometimes after crushing tobacco leaves. Neither do they wash

village, helping other women improve the quality of the milk by reducing the bacterial count.

Sonavane felt that the women need to change a lot at the field level "and this change has to begin from now if the dairy industry and women have to survive and earn greater incomes in the new market".

"WTO opens a new market and it is possible that women could make better incomes if their products are exported. Our quality has to improve to meet world standards and that is a challenge we are sure our women can take," said B M Sabale from the Akole Milk Union. "Getting women to make changes in

Livestock raises income of Tamangs in Chitwan

RSS

BHARATPUR, Nov. 27: The economic condition of Tamang, living in western side of Chitwan district, who used to offer wine to the god, goddess and guests in the past, have started to welcome guests with milk after they were attracted towards animal husbandry.

Residents of Tamang area of Gunjanagar Village Development Committee in Chitwan district have been able to make profit of thousands of rupees from milk business.

Tamangs, who used to depend on brewing local wine and sell in the villages, have now started to sell milk in the villages.

"We can make four fold income from milk rather than brewing wine," said 62 year old Bhim Bahadur Tamang.

Tamang, who migrated to Chitwan from rainas of Lamjung district in 2014 B.S. and started to live encroaching the forest, has started milk business for the last six years.

I started to the milk business buying three cows at the beginning, now I have seven milking cows and there are altogether 22 cows, he said.

He became able even to sell 50 litres of milk a day within a short span of time, he said. Tamang was declared third in the milk production competition organised by District Animal Husbandry Office in 2057/58 and got a reward of Rs. 700.

That was the day I was very happy in my life, Tamang said. I am very proud of my business and I could do a lot from this, he added.

There is no need to extend hand of cooperation from others after I started the milk business. It is enough for the livelihood and pay the fee to the children.

He is able to live happily with his 15-member family including six sons, five grand children, and three daughter in law and wife.

We used to produce only about 400 kilograms of rice from four Bighas

of field but now, the production has increased by at least four fold due to the fertilisers of the cow, he said.

Though drinking liquor is normal in Tamang community, no one of his family member drinks wine.

There is no need to go to foreign country if we work hard here in the country he said pointing out the need of management of the market by the government.

Tej Bahadur Tamang of the same village has also started the milk business from two cows and makes an average income of Rs. 12,000 from the milk business.

We have to face difficulties when there is strike and obstruction of road due to landslides and flood, he said.

Tamang had gone to the foreign country for two times but could not make any income and now he is satisfied with the milk business.

There is change in the lifestyle of the Tamang community who believe milk business is better than selling wine.

Rising Nepal 11/28/03 p 7

Key to women's empowerment

SAVITREE THAPA GURUNG

While talking about woman's empowerment, it may be worth quoting Batliwala: "The process of gaining control over self, over ideology and the resources which determine power". We can see several factors affecting their empowerment. However, the crucial factor is economic independence. If a woman marries a man and they have a constant disputation, the woman has to bear the man persistently if she does not earn. It will be question of life and death to her if she cannot tolerate him. However, if the woman is economically independent she doesn't have to abide by the domination of man. If the domination is beyond her control she can separate from him any time and live her life the way she wants it. However, can it be possible given the following scenario?

parent, larger household size is associated with lower per capita food expenditure.

Income disparity between male and female-headed households can partly be explained by large income disparities between men and women. Moreover, women are often paid less for performing similar tasks; they are essentially excluded from higher-paying employment. In urban areas, women are much less likely to acquire formal employment in private companies or public organisations and are often limited to illegal, low productivity jobs. The illegality of piecework, as in the garment industry, has messed up things.

Multi-national companies (MNC) are also responsible for women's economic backwardness. They also affect women as workers, consumers and transmitters of culture in particular ways. Over the past decades, the rapid growth in export-oriented multinational enterprises in devel-



Women and poverty

More than 70 percent of the world's poorest people are women. To get rid of poverty, women should be economically independent. If we compare the lives of the population of the poorest communities across the Third World, we will discover that virtually everywhere, women and children experience the harshest deficiency. Clark says: "Women and children are more likely to be poor and malnourished and less likely to receive medical services, clean water, sanitation, or other benefits."

The prevalence of female-headed households, the lower earning capacity of women, and their inadequate control over their spouses' income all contribute to this worrying phenomenon. In addition, women have less access to education, formal sector employment, social security, and government employment programmes. These facts combine to ensure that poor women's financial resources are inadequate and unstable relative to men's.

Furthermore, the poorest sections of Third World populations live in households headed by women, in which there are generally no male wage-earners. Women head roughly 20 percent households in India, 17 percent in Costa Rica, and 40 percent in rural Kenya, and the proportion is rising throughout Third World. Because the earning potential of women is considerably below that of their male counterparts, women are more likely to be among the very poor.

In general, women in female households have less education, lower incomes, and higher fertility. In addition to placing a greater strain on a single

parent, larger household size is associated with lower per capita food expenditure. Income disparity between male and female-headed households can partly be explained by large income disparities between men and women. Moreover, women are often paid less for performing similar tasks; they are essentially excluded from higher-paying employment. In urban areas, women are much less likely to acquire formal employment in private companies or public organisations and are often limited to illegal, low productivity jobs. The illegality of piecework, as in the garment industry, has messed up things. Multi-national companies (MNC) are also responsible for women's economic backwardness. They also affect women as workers, consumers and transmitters of culture in particular ways. Over the past decades, the rapid growth in export-oriented multinational enterprises in devel-

oping countries has had a decisive influence on development. Employment by MNCs has not resulted in any substantial gains. Nor has it proved a tool of empowerment for women. However, women are highly exploited by these enterprises whose main motive for hiring women is to make higher profits by paying women low salaries. Cohen says exploitation of and discrimination against women in export-oriented industries in Third World are linked to pay structure. Although women do the same work, they receive fewer benefits, are more easily laid off or fired than their men counterparts. Similarly, rural women have less access to the resources necessary to generate stable incomes and are frequently subject to laws that further compromise the ability to earn. Legislation often forbids women from owning property or signing financial contracts without husband's approval, and women are typically ineligible for institutionally provided resources such as credit and training. With a few remarkable exceptions, government employment or income-enhancing programmes are accessible exclusively to men, aggravating existing income disparities between men and women. Existing studies of intra-household resource distribution say in many regions of the world, there exists a strong bias against females in areas such as nutrition, medical care, education, and inheritance. For example, it is estimated that in India, girls are four times as likely to suffer from acute malnutrition and boys are 40 times to be taken to a hospital when ill. Moreover, research has revealed that these gender prejudices in household resource distribution considerably reduce the rate of survival among female infants.

Give Women Their Rights

ACCORDING to a research conducted by the National Women Commission (NWC) in 68 of the 75 districts of the country, women, who constitute 50 per cent of the population, are said to have, rights only to 5.25 per cent of the land in the country. Women have ownership to only 5.45 per cent of cattle and 17 per cent have some kind of property. That the women, despite comprising half the nation's population, have yet to be given access to facilities and services enjoyed by their other half, is by now a truism in our country. Also, that they are still devoid of the necessary opportunities to assist them to raise their low socio-economic status not only in the very society of which they are an integral part but also in their families that they, through their contributions, especially labour, are working day and night to uplift. Against such a sorry state of women affairs, to know that the nation's women are only having rights to slightly more than five per cent of the total land should not only be a source of great concern to the concerned authorities as well as other members of the civic society but, more importantly, prompt them to come up with measures to redress this lop-sided situation obtained in the ownership of land. For, as all know, including the women's other half, the women not only put in many more hours of work in the farm chores than the men but, in addition to this, they are the first ones to wake up early to do the farm works—and the last ones to get some much-needed rest from their back-breaking. On top of all this, the women are the ones who have to look after and raise the new family members.

One likely reason for all this could be traditional—and outmoded—outlook still deeply rooted in the Nepalese society. And, the reason why women, despite being the citizens of the country and members of the civil society, have yet to enjoy their fundamental rights guaranteed by the laws of the land. Hence, if the nation is to realise its development goals and the society is to move forward, the laws guaranteeing the women their fundamental rights should and must be strictly implemented.

THOUGHT FOR TODAY

We are corrupted by prosperity.

Laxmi Rana: Chitwan's poultry pioneer

—Tacitus

Laxmi Rana set out to make some pocket money and worked her way to a business worth Rs. 60 million today. She was 15 when she started out by keeping chicken and goats for pocket money. Now, at 45, she is one of the most successful poultry farmers in Chitwan.

It was 30 years ago when Rana bought about 10 chicken by borrowing money from her friends. Now she has two enormous chicken farms in Bharatpur. She is in charge of 35,000 chicken in her farms.

All this she has done single handedly. "Poultry farming is a business that requires not only huge investment but also involves huge risks," she said and added, "Sp not many people are attracted towards it."

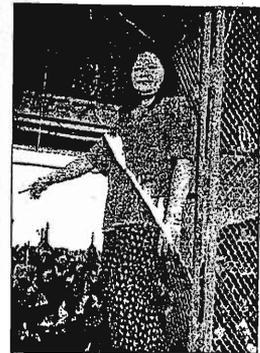
Poultry farming now takes up all her time. But Rana has no regrets about it. She loves to see her business boom through her hard work and has already invested Rs. 60 million into it. Each day her farms produce about 25,000 eggs. Rana and 20 other helpers work in her farms from early morning till late in the evening. "This is not a business where you can be the owner and sit around doing nothing," she says, "The owner needs to work hard as well."

When her business was still small, Rana used to make time to study as well. "I used to feed the chicken and go to college. When I returned, I cleaned the coops," she remembers. After completing her IA, she started working on her farm full time.

A pioneer in the Chitwan poultry-farming scene, Rana has a clear message for people vying to go abroad. She says, "If you're industrious, you can make far more money here at home than you would if you went abroad." And she has definitely proved her message true through her hard work.

Her farm is as successful as any other male-run farm in the district. Rana does not think that she has been disadvantaged due to her gender. "I never feel I'm different from other male poultry farmers," she says and adds, "They're all cooperative and treat me with respect."

(By Prabhakar Ghimire)



Kathmandu Post 3/8/04 p3



HEIFER INTERNATIONAL-NEPAL

newsletter

NEPAL
"Partnering for Values-based Development"

Measuring The Means

Since 1993 until Dec 2002

◆ 2,567 families benefited from Heifer Project Nepal gift of animals.

◆ Livestock Distributed as:

Goat	3,837
Water Buffalo	185
Pig	138
Rabbit	158
Sheep	30

Training (Person days)*

1. Technical & Management**	
a) HPI-N Conducted	4,768
b) Project Partner Conducted-	27,175
2. Non formal education	
a) Adult literacy-	28,160
b) Value Based literacy	8208
Total	66,311

* It includes all training conducted by HPI-N and project partners since 1993. It is calculated in person days.

** It includes cornerstones, animal husbandry and health, group management, gender, justice, environment - ecology, personal leadership development, TOT, PSRP, NFE facilitator etc.

◆ 222 girls supported for their schooling since 2000.

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Editor:
Dr. Surya L. Bajracharya
Sub-editor:
Ms. Anjali Lohani
(Volunteer)

Across the Political Border

"We have built a stronger relation of sharing and caring with Heifer India team," said members of Heifer Project International (HPI) Nepal team who had visited HPI India Program on March 19-29, 2003. They further added that the visit provided a good opportunity for cross country team building between India and Nepal and helped to strengthen the existing relationship between the two countries.

Similar socioeconomic conditions in these bordering countries provide ample ground to integrate strong points from each other and work with more strength to achieve the mission of Heifer in alleviating hunger and poverty and caring for the earth.

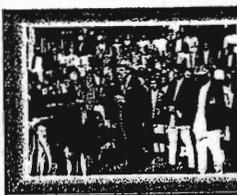
During the visit the Nepal team handed over to the India team a gift made by the project participants by collecting a fistful of rice from every meal of one month. The story and the desire of the Nepalese beneficiaries to assist poor families in India were very touching, and made the two teams feel a sense of belonging to the same family. Funds raised while celebrating HPI Nepal staffs' birthdays were also added onto the gift. The Heifer India beneficiaries greatly appreciated this gift.



Both countries felt that this exchange visit contributed in enhancing a feeling of love and care across the political border.

The exchange visit was an inspiration of the Heifer Cornerstone - Sharing and Caring, which emphasizes on sharing what we have with others, whether it be in kind or in the form of skill, knowledge and experience. The main objective of this exchange visit was to share and learn from each other's experience. Under this program both the countries staffs make exchange visits

to each other's countries followed by similar visits by project partners and project participants. Both the country programs have successful projects and are known for their high impact.



from the album of HPI Nepal

March 24, 1958 Rev. Cobb presenting to the Nepal Minister of Agriculture - the shipment. In black coat is Mr. Gurung and in red coat Mr. Janaki Pradhan, in charge of shipment.

Photo source: Mr. Larry Tilo

Women Professionals in the Land Use Sector (WPLUS)

At the request of Dr. Nirmala Parajuli, fifth apprentice of HPI Nepal and secretary of the Association of Women Professionals in the Land Use Sector (WPLUS), Dr. Bidur Pakhrin and Dr. Dilip P. Bhandari of HPI Nepal conducted a one-day workshop to share the Participatory Self Review and Planning (PSRP) technique with intellectuals affiliated to WPLUS. In addition to discussing the importance of values and cornerstones and their application in ongoing project activities in Nepal, the philosophy of PSRP and its significance in all spheres of life was extensively discussed. The participants reflected on the values of WPLUS as an organization and selected three of the twelve cornerstones, **Accountability, Full participation and Training and Education**, which they agreed were relevant to them. These indicators were assessed by the

participants in groups and it was decided to prepare an action plan in the forthcoming meeting.



All participants realized the relevance of Heifer Cornerstones in personal as well as professional life. At the end of the workshop, they felt that a lot more was needed to be done through WPLUS and committed themselves to work for those in need.

The participants greatly appreciated the strength of Heifer program and the philosophy it applies while working in the community and thanked Heifer for sharing the wonderful technique of PSRP.

Program Possibilities

Integration of Youth in Community Development project

- ◆ Education
- ◆ Group Development
- ◆ Youth
- ◆ Gender

Integrated Community Development Project

- ◆ Income
- ◆ Environment
- ◆ Women
- ◆ Capacity Building

Women Empowerment Project

- ◆ Women
- ◆ Income
- ◆ Capacity Building
- ◆ Self-reliance

From Heifer International Nepal Country Director

Dear Friends,

Heifer's work in Nepal dates back to 1950s when it shipped improved breeds of cattle, sheep, pig and poultry. These animals were maintained at government farm as nucleus breeding stock to improve the production potential of native species through cross breeding. In 1970s, Heifer provided Cattle and Buffalo semen through FAO for artificial insemination in dairy animals.



The modern era of Heifer Project began in 1993 by providing gift of goat to 25 families in Gitanagar, Chitwan. In 1995, Heifer commissioned second project with the gift of Murrah buffalo heifers to 39 poor families of Gurung Gaun village of Nuwakot district. Encouraged with the success of these pilot interventions, Heifer established country office in Nepal in 1997 and expanded its activities. Until December 2002, Heifer has assisted 2,567 families by sharing livestock and knowledge for sustainable holistic development of the communities.

Heifer's work has made visible impact in the lives of people. Some of the indicators of this impact are:

- Sustainable improvement in nutrition and income of participant families
- Increased knowledge, skills and empowerment of community members, and
- Influence on the policy, practices and behavior of others

Heifer project participants have not only achieved 100 percent passing on the gift of animals and skills to other needy families, many of them have also become donor to Heifer to initiate similar projects within the country as well as abroad. Impressed by the impact of Heifer's work, Ratnanagar Municipality awarded a financial grant to Heifer to implement project in Ratnanagar. Likewise, Department of Livestock Services has adopted Heifer's "Passing on the Gifts" model as its official development tool in all the 75 districts of the kingdom. Several international organizations working in Nepal in the field of poverty alleviation have increasingly been showing interest on Heifer's development approach. Heifer continues to be irresistible influence to others through its good work in alleviating hunger and poverty and caring of earth.

Heifer Nepal would like to thank you all for helping it to carry out its mission. We have a long way to go. Your partnership is critical in this effort.

Thank you and warmest regards

Sincerely,

Dr. Mahendra N. Lohani

Improved Animal Management

When hungry people have means to feed themselves, they will not go without food again - Heifer Project International started its journey with this belief in 1944. And supporting this belief HPI Nepal has been providing food and income-producing animals and training to impoverished families. The gift of Heifer animals helps families in need to feed themselves, increase their incomes and care for the environment.

Mr. Bir Bahadur Gurung, VAHW of Jyamire, Tanahun, shared a very interesting story. In his village resided a traditional animal healer, who used to treat sick animals. Normally, people in his village preferred to take their animals to the animal healer rather than seek his assistance. This posed a big challenge for him. However one night the healer quietly came to Gurung's house and requested him to treat his goat. Unable to believe his ears, Gurung did not say anything. Rather he successfully treated the healer's goat that was suffering from pneumonia. The news of this incident spread in the village. Suddenly the prevailing paradigm changed. The healer himself started to refer Gurung for animal treatment.

Other VAHWs share similar stories, thus motivating each other. They are proud to be able to serve their communities. VAHWs are a big asset for animal recipients in the village. They create awareness on animal management and also conduct regular animal health check-ups.

The service of VAHWs is within the affordability of livestock raising farmers in villages. In this way Heifer enables local people to address their own needs, thus reaching out to people in a sustainable way, in terms of animal management and health.

Prior to giving animals to families, the families receive training on animal management and health, which enable them to take good care of the animals received. Heifer believes in humane treatment to the animals, so to ensure this HPI Nepal has been providing Village Animal Health Worker (VAHW) training to a local person in each of its project areas. VAHW Training is a 15-day intensive course designed to provide skill-based training for leader farmers aiming to assist poor, rural farming families in livestock management and health care. A follow up is done 6-12 months after the training and the trainees take a skill test in order to attain national recognition.

In February 2003, HPI Nepal conducted a workshop for its 15 VAHWs. In the workshop the VAHWs shared their experiences from the field.



Indicating the Impact

"Suddenly the prevailing paradigm changed after treating healer's goat successfully. The healer himself started to refer me for animal treatment."

-Bir Bahadur Gurung

About Us

Lotus Opportunities is a private organisation in Nepal that seeks to blend the elements of a business or market-driven approach with that of sustainable enterprise development. We develop partnerships and workable models for sustainable enterprise development in Nepal. Development practitioners utilize our expertise to build strong concepts and find the means to pursue their social missions. We believe that it is only through such a holistic and collaborative approach that the goal of sustainable enterprise development can be realized.

Vision

A self-reliant, socially and economically developed society through the growth of business enterprises

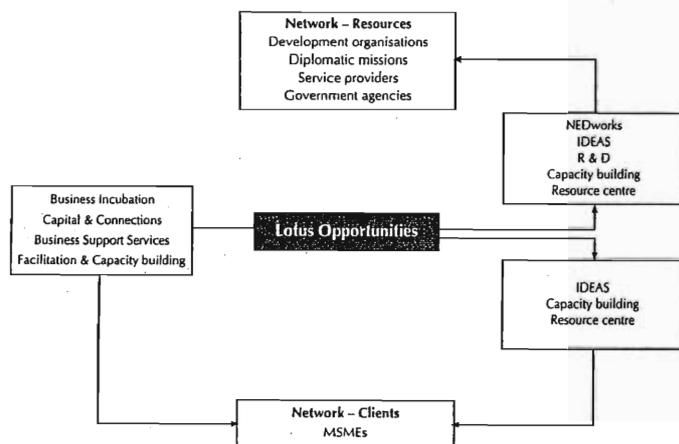
Mission

Lotus Opportunities encourages and supports entrepreneurial achievement and economic development in Nepal through intervention initiatives with individuals and organisations directly or indirectly associated with these enterprises.

Operation Area

Lotus Opportunities works with micro, small and medium enterprises in Nepal. There is a need to identify ways to encourage survivors rather than creating helpless dependents. In this scenario, there is a need to promote entrepreneurship in the formal as well as the informal sector. Lotus Opportunities sees its responsibility in this area whereby encouragement can be given to micro and small entrepreneurs to operate, grow, and sustain themselves.

Operation Model



Operation Modality

With respect to enterprise development, we work through four different operational themes and with four corresponding organisations, the numbers of which we seek to add on with time and expansion of our activities.

Business incubation

Start-up solutions to entrepreneurial ideas and zest, business incubation is one of our initiatives in helping emerging entrepreneurs get from ground limited to ground unlimited! We work with Nepal Lotus Business Incubation Centre in order to take this venture forward.

Capital and connections

Capital and connections provide entrepreneurs with the access to financial resources either for business start-up or business development. For this, we fund or facilitate such access through Lotus Holdings.

Entrepreneurial assistance

We believe that business problems and issues are but natural elements to running any entrepreneurial venture. We cannot escape them we can tackle them. Business support services are one means of entrepreneurial assistance in this regard. We work with Lotus BizPort in order to help entrepreneurs do business better.

Facilitation and Capacity building

The provision of professional solutions to an organisation's management needs be it in the form of events, seminars or projects, and affecting their capacity building through the design and delivery of training programmes and consulting services is our means of providing the finishing touches to our consortium of activities. Lotus Intellect is our partner in this endeavour.



Glossary

ASF	Animal source foods
BMP	Best-management practices
BPKIHS	B.P. Koirala Institute of Health Sciences
Co-op	Co-operative
DHS	Department of Health Services
DLS	Department of Livestock Services
EDCD	Epidemiology and Disease Control Division
FCHV	Female community health volunteer
FIAREP	Integrated Agriculture Reform and Environmental Preservation Forum
GL-CRSP	Global-Livestock Collaborative Research Support Program
GNI	Gross National Income
HI	Heifer International
HI/N	Heifer Project International/Nepal
HIV/AIDS	Human immunodeficiency virus/acquired immunodeficiency disease
HMG-Nepal	His Majesty's Government-Nepal
ICIMoD	International Centre for Integrated Mountain Development
IDA	Iron deficiency anemia
IRB	Investigation Review Board
KAP	Knowledge, Attitudes, Practices
MAD	Market analysis and development
MDG	Millennium Development Goal
MOU	Memorandum of understanding
NARC	Nepal Agriculture Research Council
NASRI	National Animal Science Research Institute
NGO	Non-governmental organization
NHRC	Nepal Health Research Council
NNP	National Nutrition Programme
PAR	Participatory Action Research
Ped HO	Pediatric House Officer (qualified physician training in pediatrics)
PRSP	Poverty Reduction Strategy Paper
RARS	Regional Agricultural Research Station (operated by NARCI)
TSH	Thyroid Stimulating Hormone
TUSM	Tufts University School of Medicine
UNICEF	United Nations International Children's Emergency Fund
USAID	United States Agency for International Development
VAHW	Village Animal Health Worker
WHO	World Health Organization

Laurie Miller, M.D.

In-Kind Commitment:

	Estimated value over 3 years
Suitable office space and utilities	\$30,000
Access to computer and printer	3,000
Appropriate computer software	
Access to fax	
Access to photocopy	
Access to phone service and internet	1,900
Basic offices supplies and stationery	3,000
Malpractice insurance	12,000

Estimated total value: \$49,900

