

Evaluation of Farming Health and Environment Project Nepal



Commissioned by

Dialogos Denmark and Nepal Public Health Foundation

October 2015

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ACRONYMS

AHW	Assistant Health Worker
ANM	Auxiliary Nurse Midwife
ARI	Acute Respiratory Infection
BCG	Bacillus Calmette–Guérin
CA	Constitutional Assembly,
CMC	Chitwan Medical College
CISU	Civil Society in Development
CSC	Central Steering Committee
DASAM	Danish Society for Occupational and Environmental Medicine
DAC	District Advisory Committee
DADO	District Agricultural Development Office
DB	Direct Beneficiaries
DDC	District Development Committee
DIC	District Investment Case
DPHO	District Public Health Office
EC	Executive Committee
FCHV	Female Community Health Volunteer
FHEP	Farming Health Environment Project
FHEN	Farming Health Environment Nepal
FFS	Farmers Field School
FNCC	Federation of Nepal Chamber of Commerce
GARP	Global Antibiotic Resistance Partnership
GDP	Gross Domestic Product
GNI	Gross National Income
GoN	Government of Nepal
HCW	Health Care Worker
ICOEPH	International Center for Occupational, Environmental & Public Health
ICOH	International Commission on Occupational Health

IEC	Information, Education and Communication
IPM	Integrated Pest Management
NGO	Non Government Organization
JTA	Junior Technical Assistant
MoAD	Ministry of Agricultural Development
MoF	Ministry of Finance
MoFSC	Ministry of Forests & Soil Conservation
MoHP	Ministry of Health & Population
MoICS	Ministry of Industries, Commerce & Supplies
MoLTM	Ministry of Labor, Transport & Management
MT	Metric Ton
MoU	Memorandum of Understanding
NARC	Nepal Agriculture Research Council
NHRC	Nepal Health Research Council
NPHF	Nepal Public Health Foundation
NRS	Nepali Rupee
OHS	Occupational Health and Safety
PAN	Pesticide Association of Nepal
PPE	Personal Protective Equipment
ToT	Training of Trainers
UNICEF	United Nations Children's Fund
WHO	World Health Organization
VDC	Village Development Committee

EXECUTIVE SUMMARY

This is an evaluation report of the Farming Health and Environment Nepal 2013/15 Project, funded by Civil Society in Development (CISU), that has been jointly commissioned by Dialogos and Nepal Public Health Foundation (NPHF). The project has been implemented since April, 2013. The goal of this project is to improve the health of farmers and consumers by promoting a healthy and sustainable food production in Nepal. Findings and recommendations are based on the thorough review of the project reports, discussions with the target groups, district and central stakeholders, implementing partners and FHEN project staff.

The FHEP project is well into achieving its objectives and solid foundation has been laid. It has made valuable contribution in the district but not at the national level. Target groups attitude has been realized largely positive, enthusiastic, praised and liked by all, willing to extend and expand to further areas. The project has been efficiently implemented and it is on track of achieving most of its planned results by August 2015. Although thin coverage, trained farmers and health care workers are capable of adopting the learning into their farming/health care systems. The project has been implemented in a well coordinated manner and activities have been highly relevant to the target groups and stakeholders. The project approach has much strength however lack of ownership and the role and responsibility of the CSC and DAC were not clear. The project implementation team were found to be constructive, enthusiastic and technically efficient.

The main recommendations of the evaluation are directed into the future. This is because there is only 6 months remaining time in this project and it has to be continued as the target group needs to learn more to be established. Thus, Dialogos and NPHF partnership and financial contribution of CISU is realized, as vital.

Considering the next phase, it is recommended that:

No major change to modalities: The multi-sector feature of the project farming combined with health is an inventive combination, collaborating with the key stakeholders like the DADO, DPHO, DAO, IPM farmers association, Cooperatives, University of Agriculture and Forestry for research and other IPM related activities, Hospitals for pesticide poisoning research and health promotional activities needs to be continued at the district level. Additionally, school teachers, farm extension workers and existing active women's group should also be included in the awareness raising activities in the second phase.

Increased Geographical Coverage: Despite being a successful project the project only worked in 5 VDCs without any activities at the national level, i.e. in Kathmandu. For more impacts, the project should be expanded in the other VDCs of Chitwan Districts. The project while conducting the base line study on knowledge, attitude and practice on use of pesticides and its effect had chosen five control VDCs, inclusion of these 5 VDCs

in the second phase would be sensible as they are already in contact with the project and are pesticide prone VDCs. Chitwan also has mountain VDCs hence one or two of the mountain VDCs should also be incorporated in the second phase of the project.

Review of the Training Approach: Directly taught by the experts are highly appreciated and adopted, who expressed that, 'even an hour long session was equivalent to 3-month long training'. Large groups of farmers and FCHVS were complaining that the fellow farmers were not willing/ready to learn from them. Two options can solve these problems. Option one could be to develop the capacity of the trained farmers and the FCHVs by providing Training of Trainers (TOT) and equip them with large numbers of simple IEC materials, and videos. The second option could be to promote the school teachers and the HCWs to raise awareness in the community with use of IEC materials and the FCHVs and trained farmers to support them on organizing awareness raising training.

Advocacy Activities at the National Level: The project has developed 23 IEC materials that includes 7 training manuals/books and flip charts (some of which are endorsed by the Nepal Government) on prevention of pesticides poisoning and safe use of pesticides. These valuable books /manuals and IEC materials should be circulated widely as well as the findings of the research should be disseminated at the national level. As rightly pointed out by the HCWs, the proven knowledge should be adapted in the governing health care system of Nepal. In association with the central level stakeholders, NPHF should promote these curriculums. Additionally, OHS knowledges and skills should be enhanced sharing with the concerned stakeholders. Establishment and regular monitoring of pesticides residue testing equipments in Chitwan and Kathmandu should also be incorporated in the second phase of the project.

Functional Roles of the Stakeholders and NPHF: There was a lesson from the project implementation in this project that the roles and responsibilities of the stakeholders and the implementing partners should be clearly reflected in the project document, to produce effective results, efficiency and sustainability of outcome. Clear roles and responsibilities will facilitate to accomplish the work to be done.

Challenges: The open border with India and leasehold farming is the big challenging issues for FHEN project. The leasehold farming by the Indian people who buy the huge amount of pesticides and easily carry from India are mostly focused on the commercial production. Their product directly goes to the market and consumers, who directly consume them. The production cost of those people is very low and the middle man can easily buy it and sell with considerable profit margins compared to safely produced vegetables. Another big challenge for the project is the unavailability of alternative pesticide and limited researches on bio-pesticides.

Alliance for Safe Vegetable Marketing: Farmers are happy in getting opportunity on safety part from health perspectives; however they want to have alternative pesticides to increase their production, fair rates for the safe vegetables they produce. Federation

of the Nepal Chambers of Commerce (FNCCI) can be a potential stakeholder for marketing of the quality products (safe vegetables); consumers association can be the other potential stakeholder, to create pressure for regular monitoring of pesticide residues, to ensure safe/quality vegetables.

Collaborate with DDC, Municipalities and VDCs: The local bodies are responsible to support the local communities. They are the bodies that play vital role in local level planning to implementation. Hence, it would be effective and sustainable if they tie-up with DDC, Municipalities and VDCs.

Capacity Building on Participatory Development: Capacity building in participatory development is the core value of CISU and also the foundation to create the feeling of ownership and sustainable development, which the project is lacking at the moment. Participatory development is a process through which stakeholders can influence control over development initiatives, and over the decisions and resources that affect them. Participatory planning and implementation enhances effective results and fosters a sense of ownership. It is a proven fact that when citizens develop a sense of ownership, it would be more sustainable. Hence, the project in the second phase should incorporate capacity building on participatory development.

Advanced Level Training for the Existing Groups: The target groups have learnt and internalized the knowledge. They need to provide advanced level training to strengthen their capacities for their own use and to be able to spread the knowledge to others.

Develop an IPM Resource Centre: At least one resource centre on IPM or pesticide or pesticide safety within the district should be established. It should always need to consider what will be the next move after project. If the project develops a resource centre with relevant information on IPM, bio-pesticide and safe use of pesticide either in the Agriculture and Forestry University or DADO, these potential government organizations, will disseminate the knowledge and skills on relevant issues after the termination of project.

Knowledge Sharing at All Levels: The project has to share the newly acquired OHS knowledge, with the likeminded groups, people and stakeholders. It should create forums/process to promote and consolidate the OHS knowledge including community, district, national and international levels.

ACKNOWLEDGMENTS

I am grateful to both Dialogos Denmark and Nepal Public Health Foundation for giving me an opportunity to conduct the evaluation on Farming Health and Environment Project.

My sincere thanks go to Dialogos board members, Dr. Birgitte Zwicky-Hauschild, General Manager for the Secretariat, Ms. Annie Oehlerich and Dr. Abhinav Vaidhya for joining partially during the evaluation activities and for their inputs which helped to enrich the evaluation. Joining of the two Dialogos representatives was an inspirational aspect to the project implementation team, target groups, project staff and supportive to CSC, DAC and NPHF. My sincere thanks go to Dr. Badri Raj Pande and his team for their generous support for the accomplishment of the evaluation smoothly, despite the fuel shortage and general strikes during the evaluation period.

My gratitude goes to the NPHF Executive Committee, CSC members, DAC members, district IPM association committee, Agriculture and Forestry University, Rampur and Chitwan Medical College for their invaluable inputs that have added depth to the evaluation findings and recommendations. I would like to give huge thanks to the cooperative executive committee, farmers, HCWs, FCHVs, Sukranagar women's group, pesticide dealers, who attended the meetings to share their experiences and lessons learnt that contributed to improve the health of farmers and consumers by promoting a healthy and sustainable food production.

Lastly, my gratitude goes to the entire field staff of FHEP who generously supported to accomplish the evaluation activity by providing me with the data, information, required on time and the logistic support.

I hope the findings of the report will be useful to implementing partners, all the stakeholders and the target groups in developing the activities further.

Homa Thakali,
Evaluator, Kathmandu, Nepal
October 2015

1. INTRODUCTION AND APPROCHES

This is the final report of the evaluation on Farming Health and Environment 2013-2015 Nepal Project, funded by the Civil Society in Development (CISU), that has been jointly commissioned by Dialogos, a Danish NGO working in the area of Occupational Health and Nepal Public Health Foundation (NPHF) NGO, working in the field of public health in Nepal. The project has been implemented since April 2013. The Evaluation was conducted during August-October 2015, by Nepali Evaluator, Ms. Homa Thakali. Dialogos board member, Birgitte Zwicky-Hauschild and General Manager of the Secretariat of Dialogos, Ms. Annie Oehlerich, joined in the later part of the evaluation.

1.1 Evaluation Objectives:

- Evaluate project performance as regards the preparation and implementation of plans and achievement of targets and objectives.
- Recommend adjustments to reach project objectives during the rest of the project period.
- Formulate experience gained from the project in relation to project preparation and implementation.
- Evaluate the capacity of NPHF as an NGO.
- Assess the capacity building and skills training needs of NPHF to gain improved efficiency, effectiveness and readiness for scale-up work in future project.
- Evaluate the gender dimension in the project

1.2 Approach

The approach used in the assessment was participatory. Mostly qualitative methods were used. Collection of primary data consisted of interviews and discussions with target groups, stakeholders, and project staff. Five checklists were based on the evaluation issues, one was for the farmers, Agro-vet dealers, FCHVs, second list was for fellow farmers, the third for the health care workers, the fourth list was for the institutions collaborating organizations like Chitwan Medical College and DADO, the fifth was for the staff and the last was for CSC, DAC, NPHF and Dialogos. The CSC committee and the NPHF Board members were consulted to share their views, relevance, challenges and ideas of scaling up for the next phase.

1.3 Methods of Evaluation

The **evaluation** was implemented as a joint learning exercise with the NPHF Farming Health and Environment Project staff, Dialogos and target groups. The first introductory meeting was on 19th August 2015 in the NPHF office in Kathmandu. The initial consultation was with the head of NPHF and Kathmandu based part time project staffs with the purpose to get to know each other and to get project documents for desk review. After getting an overview of the project, second meeting was organized to plan for the

field visit and prepare a list of CSC members meeting in Kathmandu. With NPHF coordination consulted with some CSC members in their respective organizations to get their views and impressions, relevancy of the project and ways of up-scaling. Similarly, a work plan was prepared in consultation with Dialogos, NPHF and the field office.

First Field Visit: The external Nepali Evaluator had a week long field visit to the entire 5 VDCs of the project from September 3-9, where she had discussions with the field staff, farmers, fellow farmers, agro-vet dealers, Cooperatives, IPM farmer's association, FCHVs, HCWs, DAC and other stakeholders.

Full team: Representatives from Dialogos arrived on the 18th of September and on 19th they presented its approach and revised version of CISU application form and its core values. The Nepali external evaluator presented her preliminary findings to the two implementing partners Dialogos and NPHF. The full team had meetings with the stakeholders in Kathmandu including meeting with KHORYUG Monasteries.

Second Field Visit: The evaluation team visited Chitwan from 22-27 September. They visited and interacted with the farmers' cooperative executive committee, trained farmers, fellow farmers, agro-vet dealers, HCWs, FCHVs and DAC. The team organised a brief workshop with the target groups where Dialogos working approach and CISU's principle was shared and the evaluator presented her findings. The team also had series of meetings with the staff about the second phase activities including presentation with the purpose to discover more findings and also to find a basis for the second phase.

The team came back to Kathmandu on 27th September, had few meetings with the stakeholders, staff and Embassy of Denmark. At the end of the field mission, on 1st October, Central Steering Committee (CSC) members, NPHF board members and project staff were invited for a briefing where the team presented its key elaborated findings and recommendations.

Analysis of the findings and report writing took place in two phases, drafting and finalization. The preliminary draft report was sent to Dialogos and NPHF on October 10th for review and comments. Both Dialogos and NPHF provided feedback by October 15th. The comments were incorporated in the report before the final document was produced. The date for the final report to be submitted was agreed to be on October 19th, 2015.

1.4 Challenges and Restrictions

The Evaluation took place when Nepal was preparing to promulgate its new constitution, and there were demonstrations and riots in different parts of Nepal, mainly in Tarai region, that affected the first field visit. The first field visit was planned for August 31–September 6, 2015. On August 30th, nine persons including a policeman were injured in a clash that took place in Chitwan, so the visit had to be postponed and resumed from September 3–9, 2015. In the second visit of the evaluator to the project area, she was accompanied by the two representatives from Dialogos, during that time, India imposed an unannounced

blockade to Nepal. It suffered from shortage of day to day commodities mainly the fuel which problem led restrictions on mobility arriving Kathmandu. Number of meetings had to be reduced and tactfully managed as well as the numbers of the participants for the final presentation were reduced due to that reason.

1.5 Structure of the Report

In Chapter 1 the objectives of the assignment and core methodological issues are discussed. Chapter 2 presents the context of the project and the implementing partners and brief description of the project. Chapter 3 describes analyses findings of the evaluation issues. Finally, Chapter 4 presents conclusions and provides recommendations.

2. CONTEXT

2.1 Country Context

The Federal Democratic Republic of Nepal is a landlocked country in South Asia, bordered in the north by China and in the south, east, and west by India. The current population estimate is approaching 30 million. The Human Development Report of 2014 has ranked Nepal 145th, up from last year's 157th. Nepal's Human Development Index (HDI¹) value is the highest among the South Asian "Low Human Development" group. The average HDI value for Nepal stands at 0.540 compared to 0.463 from last year. Similarly, as per the same report, Nepal has also improved its ranking in Gender Inequality Index, which is now ranked 98th from 102nd last year.



Figure 1: Map of Nepal

Political context: People's movement in April 2006 ended the decade long conflict that had led to a breakdown of security structure, increased uncertainty in mobility, and socio-political instability in the country. Following the people's movement and Peace Accord (November 2006), an interim eight-party House of Representatives was established in January 2007. On the same day, the House passed a new Interim

¹ HDI 2014

Constitution. Nepal was declared a federal republic, thereby abolishing the monarchy. The Constituent Assembly elections were held on 10 April 2008, whose mandate was to write a new constitution. It was originally designed to act as the interim legislature for a term of two years ending in May 2010.

The successful holding of election for second Constitutional Assembly (CA) on November 19, 2013, had to some extent, transformed the political environment of the country and diminished violent inter-party clashes. The second CA was constituted on January 21, 2014. Amidst political clashes and few groups still in disagreement, it finally declared the new Constitution on September 20, 2015, after over six years of drafting process.

2.2 Government Plan/Policies and other Interventions

Nepal has a fair amount of health policies, strategies and plans since 1991, where the National Health Policy was established with the main objective of extending the primary health care system to the rural population by means of health infrastructure development, community participation, multi-sectoral coordination, mobilizing local resources and decentralized planning and management. To reduce infant and child mortality has been a priority. Following the adoption of the National Health Policy the Nepali health care sector has made significant progress in both public and private sectors. Primary health care services are provided at district level through sub health posts, health posts, primary health care centers and district hospitals. Secondary and tertiary care is provided by regional hospitals and specialized tertiary facilities. The Second Long Term Health Plan was developed for 1997-2017 with the aim to guide health sector development for overall improvement of the health of the most vulnerable population such as women, children, the rural and the poor. The Nepal Health Sector Implementation Policy was formulated with the objective to improve nationwide health outcomes by expanding access to and increasing the use of Essential Health Care Services, especially among the poor.

Pesticides Act 2048 was established in 1991 and rules in the act were framed by means of Pesticide Rules 2050 in 1993. The act and rules have been effective since 1994 aiming at the implementation of national and international rules and regulations on pesticides. As per the act, pesticides are registered and regulated covering import, production, sale, distribution, marketing and its use for management and prevention of risk. The act established a Pesticide Registration and Management Division to partly register pesticides and issue certification upon receiving application and partly ascertain the criteria for rational and appropriate use of pesticides. Registration is required for each formulation and even brand of a single technical compound and pesticides are registered in the name of the trade product for five years with or without provision/condition. Also, the act established a Pesticide Committee composed of members from various ministries, the Pesticide Association of Nepal (PAN), scientists and consumer groups, who is mandated to 1) advise GoN in the formulation of national policy, 2) co-ordinate between private and government sectors in the production and

distribution , 3) encourage private sector investment in the pesticide industry, 4) control the quality of industry produced pesticides operated under private or government sectors, 5) set quality standards, etc.

2.3 Plant protection act 2007 and Plant protection rules 2010

Another Plant Protection Act 2064 from 2007 was enacted establishing a Plant Quarantine Committee with the responsibility to advice and suggest GoN on policies about quarantine of plants or plant products. Even though Nepal is a signatory of international conventions related to pesticides such as Stockholm Convention, Basel Convention, Rotterdam Convention and Montreal Protocol (MoAC), nevertheless, putting these conventions and control mechanisms functional in the farming districts is lacking. Little interest is given to these issues by the farmers and consumers due to lack of knowledge and awareness. Furthermore, GoN has not got the public pressure or advocacy to make these toxicological and environmental problems created by pesticides, an issue of importance – awareness is missing.

2.4 An Overview of Project Operating Sectors at the National Level

Health: Health services are provided in government hospitals, primary health care centers, health posts, sub-health posts, private nursing homes, and hospitals run by NGOs and international NGOs. At a health care system level, prevention and treatment of pesticide poisoning cases whether intentional or unintentional is poor in Nepal due to a strong lack of relevant skills among health personnel. The majority of pesticides poisoning cases are handled at peripheral levels of health care units such as health posts and district hospitals where treatment of poisoning cases is based on individual level. There are no standard protocols for handling such cases immediately after arriving in the emergency ward. Also, the existing health care education is not effectively managed and poisoning makes it difficult for health personnel to recognize as well as detect the prevalence of pesticide poisonings and their characteristics.

Farming and use of Pesticides: The farming sector is considered to be the backbone of Nepali economy and the main source of food and income, as it is providing employment opportunities to around 76% and contributes 34% of the nation's total GDP. Cultivated and uncultivated farming areas in Nepal occupy about 3.1 and 1 million hectares, respectively. Among Nepali farmers most are subsistence/small-scale farmers and therefore dependent on farming related activities for their livelihood. Most of the crops that are sold throughout Nepal are from the Terai region.

Pesticides form an important part in increasing farming production for controlling any pest in plants and diseases in animals. The highest average percentage of Nepali land using pesticides is the Terai (12%), then the hills (5%) and Himalayan region (0.7 %). Pesticides introduced in Nepal are organ chlorines- 1950's, organophosphates- 1960's,

carbamates- 1970's and synthetic pyrethroids- 1980's, and due to international agreements and high toxicity GoN has banned fourteen pesticides. The import of pesticides in active ingredients has increased from 108427.19 kg in 1999 compared to the most recently available data in 2008 and 2009 where the quantity was 312740.50 and 211079.34, respectively. On average the use of pesticides is 363g ai/ha. However, the use is higher in areas with intensive commercial farming of cotton (2560g/ha), tea (2100g/ha) and vegetables (1400g/ha) like the Terai region. The most common pesticides imported are fungicide (61%) and the second major component is insecticide (30%), where the very toxic organophosphates account for the highest amount. For the rest herbicide, rodenticides and bio-pesticides cover 7%, 1% and 0.7 %, respectively. Worth noting is that most of the pesticides used in Nepal are imported from India and as there is an open and porous border with India, there is a considerable, but unknown quantity of trade between farmers close to the border that is not reflected in the presently available data. Hence, the quantification of pesticides could be seriously under-reported (Journal of the Plant Protection Society Nepal; MoAD). The use of chemical NPK fertilizer (nitrogen, phosphorous, and potassium) in Nepal 2011/12 was 422,547 MT of which only about 25% is imported officially. However, other 75% is imported informally.

At a structural level, there are several causes to a poor management of pesticides in Nepal. Poor quality and poor knowledge of good fertilizer practices are considerable constraints to productivity. There is no controlling mechanism for application of expired pesticides, the quality of imported as well as locally produced pesticides and consumer safety. Illegal trading due to open borders, especially to India, is also an important matter as is the low import of alternative pesticides which are not readily available. Systematic disposal mechanisms are non-existing and therefore storage of obsolete pesticides is not always obvious posing serious problems if carelessly managed. Due to a poor monitoring system, adequate enforcement of pesticide regulations is not taking place and several misuses of pesticides could be happening (Plant Protection Society).

At a practical level, inappropriate pesticide behavior among majority of farmers and pesticide dealers in Nepal still apply highly toxic pesticides because they feel that more toxic pesticides are effective in killing pests. Other issues are overdoses, frequent use, not following pre harvest waiting periods, combining insecticides and treat it like human medicine. Moreover, most farmers do not have or apply personal protective equipment (PPE) either due to lack of awareness or discomfort who are exposed to pesticide dealers and retailers leading aggressive marketing strategies (Plant Protection Society).

Educative interventions: Traditionally the majority of NGOs are involved in health education, family planning, maternal and child health, nutrition and prevention of major infectious diseases. Knowledge on toxicology depends on the academic qualifications of Nepali health personnel and the length of training they have received and also there is no provision of training on toxicological effects of pesticides for health cadres in districts. The National Health Education, Information and Communication Center is acting as a center for MoHP with an integrated approach and one door system for advocacy,

community mobilization, behavior change communication and health service and program promotion activities. The center is providing planning, implementation, monitoring and evaluation at the different levels and strengthens and encourages people individually and in groups, use participatory methods to develop positive attitude and practice healthy behavior through health education, promotion and appropriate treatment of disease prevention, control and rehabilitation to encourage full utilization of health services and program.

MoAD has the overall responsibility of executing the UN promoted Integrated Pest Management (IPM) strategy introduced in 1997. IPM is understood as an effective, economically sound and environmentally sensitive approach to pest management that relies on a combination of common-sense practices that enhances, rather than destroys, natural controls. In IPM, pesticides are used sparingly and selectively always using the less toxic options and promoting the use of appropriate personal protection to minimize negative health effects. IPM was introduced by FAO under the “Implementation of IPM in Rice” between 1998 and 2002. Later, the Norwegian Government bilaterally funded the project “Support to the National IPM program” from 2004 to 2007 with the objective to train human resources (technicians and farmers) focused in crops of rice and vegetables. The Norwegian Government again granted financial assistance to support the consolidation, up scaling and institutionalization of the National IPM Program from 2008 to 2012, which is able to train approximately 72,957 farmers, 1,010 Farmer Field School (FFS) have been implemented (50% in rice and 50% in vegetables) and plant protection officers exist in each of the 75 districts. Other impacts observed are reduction in pesticide use by 40% in FFS areas, increase in crop yield from 15–25% in rice and 32-48% in vegetable as compared to farmers’ adopted practice.

However, it is estimated that only 20% of the farmers are aware of IPM practices and major challenges still faced are: 1) development of alternative means of pest control 2) up-scaling IPM technology based production systems through implementation of FFS 3) the field impact in terms of the use of IPM tools as an alternative to pesticides should be measured because the criteria of increasing the number of IPM trainers and trainees and FFS sites alone may not be a satisfactory answer to the success of IPM 4) the trend of pesticide import and use has not changed much even after a decade of IPM implementation 5) lacks in adequate knowledge of trainers 6) low level of participants in intensive district level trainings 7) delayed supply of economic and technical support 8) delayed quality seeds supply (MoAD). Farmers’ Cooperatives provide training related to improving technical farming production skills with assistance from MoAD. Most of the training is based on increase of food production and marketing. However, the training programs have not been adequate and most of the farmers have not received any training from their respective Farmers’ Cooperative or technicians.

Occupational Safety and Health (OSH): is very important issue at an individual, social and national level, it has not received much attention so far in Nepal. Similarly, agriculture workers, who use pesticides and other chemical in farming, are often at risk.

Pesticides and other chemicals used in farming can also be hazardous to workers health which can impair the health and well-being, and also impact the surrounding communities and the environment. In one of the few studies conducted found out that households using insecticides, spraying pesticides developed acute health problems like headache, muscle twitching/pain, chapped hands, excessive sweating, eye irritation, skin irritation/burn, weakness, respiratory depression, chest pain and throat discomfort. Another survey also found that workers exposed to pesticides may experience illnesses or birth defects of work-related injuries, lung disease, as well as certain cancers related to chemical use (2011 Joshi SK et al./ International Journal of OSH).

Enactment of Labour Act 1992 and its regulation (1993) is only the legal document that covers safety and health provisions of workers in Nepal. To promote the OHS at workplaces by enhancing the improvement of working conditions Government of Nepal established OSH Project under the Ministry of Labour and Transport Management in 1995 with the prime objective of creating awareness of occupational safety and health among industrial employers, employees concerned in improving the conditions of work. However, the weak regulatory systems has resulted in the hazardous working environments leading to the higher risk of poor working conditions followed by high incidence of occupational diseases and accidents of the workers.

2.5 Project Area

The main reason to choose Chitwan district for the project was due to its location in the central development region of Nepal in inner Terai, with a total population of around 566,661 (census 2011) and relatively equal gender distribution. Chitwan district has 1 regional hospital, 1 eye hospital, 1 tertiary level cancer hospital, 4 primary health care centers, 6 health posts, 31 sub-health posts and a few private hospitals and nursing homes. Farming is the primary source of income for 75% of population of the district. Out of total 46,894 ha. of arable land, 44,291 ha. land is used for agricultural purposes. More than 80% of the total population in this district depends on farming. As of September 03, 2012, there were 630 registered Farmers' Cooperatives in Chitwan. Though there is a strong network of Farmers' Cooperatives in this district, they hardly receive training on pesticide and other production issues.

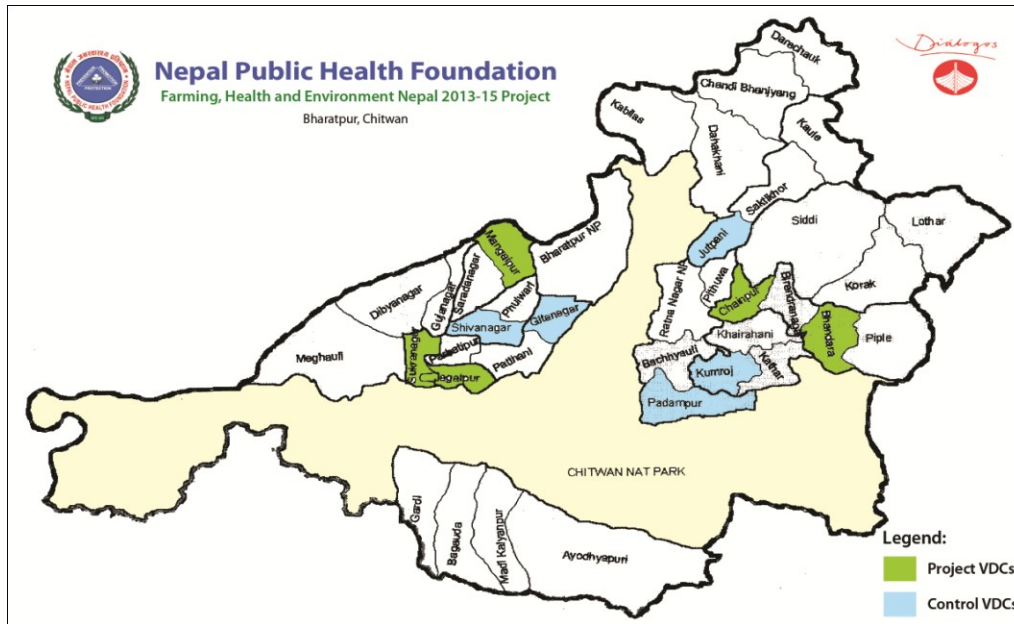


Figure 2: Project Area- Chitwan District indicating the 5 Working and 5 Control VDCs

2.6 The Partners

The Danish organizations

Dialogos, a volunteer based organization, started in 1994 with a commitment to a) assist populations in low-income countries on their self-chosen way out of poverty, b) work for democracy and just resource distribution, c) involve and activate large resources in the close network of associations, institutions and companies in Denmark. The frame of work is to strengthen partners from the civil society to become able to advocate for a better health of the population by improving alternative and ecologically friendly methods for health care and food production. While carrying out successful projects in Bolivia and Uganda on prevention of pesticide intoxications Dialogos had gathered experience with local and international NGOs, local agencies and authorities (universities and ministries) like the World Health Organization (WHO), and the International Commission on Occupational Health (ICOH). Dialogos used to organize and coordinate activities for their members and activate Danish and international professional networks to help conduct activities in projects, for example, ICOEPH, a network of professional Occupational and Public Health specialists, which are considered a strong and a necessary part of the Dialogos projects.

In Nepal, Dialogos conducted projects in Solukhumbu with the Nepali NGO, Young Star Club since 1999. The project focused on basic health needs, nutrition, education of females and in creating communication media to retain and complement discussions and activities in the project area.

Dialogos with the profound solid knowledge and good network from Nepal, decided to open a new area in the fields of occupational and environmental health from the pesticides. This focus made it necessary to change local partner to a professional and skilled NGO in this field, the Nepal Public Health Foundation (NPHF).

Other Danish Partners

DASAM founded in 1980 has 165 members specializing in occupational and environmental health. In 2004, the international committee of the association called ICOEPH was created. The mission of the committee is to facilitate low-income countries in ensuring occupational and environmental health by means of advice and promotion of focus on occupational and environmental health issues.

Dialogos and ICOEPH have 8 years of working experience on development projects about "Pesticide Use, Health and Environment" in Bolivia and Uganda. ICOEPH has been involved in public awareness raising in Denmark about occupational and environmental health issues in low-income countries in the Danish society by means of the media. Value of incorporating this additional partner:ICOEPH is not only a valuable partner because of its expertise in technicality, research and education but also because of its international relations.

Other collaborators in Denmark who are in contact and coordinating with are institutes and students from Danish Universities. Moreover, consultants from the companies "Better spraying" would be used to supervise on effective spraying techniques minimizing pesticide use, while the contacts to "BiopesticidesTappernøje" could advice on the biological means of killing pests.

The Local Organization

Established in 2010 as a democratic organization with almost 50 members, NPHF, as an organization with technical skills and contacts to Nepali organizations and government, is trying to articulate the needs of Nepali people in collaboration with its civil society organizations that not necessarily has got the knowledge or contacts to improve their own situation substantially. The organization has worked for the civil society to ensure public health advocacy and community based action to empower people at community level, and was seen as a facilitator of changes in Nepal in the area of public health including workers health and a healthy environment.

NPHF's past experience with community based organizations, people's health movements, the government, other NGOs and private sector and its affiliation with the Ministry of Health & Population (MoHP), WHO, Nepal Health Research Council (NHRC) and Epidemiology and Disease Control Division was appropriate choice as partner for the projectalso because of itssolid knowledge on health issues in local conditions. Although, farming projects have not been conducted directly, the fact that more than half of Nepal's population is working in farming, this sector has been reached by the

activities of NPHF. NPHF consisted of a critical mass of highly experienced experts and activists in an apex body that had full autonomy exercised by its governing board and general body. The organization was established by experienced public health experts who already worked as senior government officers, employees of national and international organizations, professors of universities, leaders of consumer groups, environmentalists and human right activists. Furthermore, the good experience of NPHF in working with other civil society actors such as Nepal Red Cross Society (NRCS) and Female Community Health Workers and organizations such as foreign donors and WHO also emphasized the vast amount of experience that it possessed. In addition to this, many of the employees in NPHF had already served at government policy level which increases their lobbying capacity with governmental institutions in Nepal in order to make policy level changes.

During the evaluation, the Board Members of the NPHF were consulted to learn more on their programs which revealed that they have multi-linkages with various local and international organizations, such as Global Antibiotic Resistance Partnership (GARP-Nepal), supported by Centre for Disease Dynamics Economics and Policy, Washington DC and New Delhi. Similarly, District Investment Case (DIC) UNICEF Nepal, Health Education/Orientation Through Social Mobilization (IPCS) are the other ongoing projects supported by UNICEF Nepal, Post Disaster Need Assessment on Health project is supported by HOPE, to Develop Training Manual and Conduct Training on Basic Concept of Nutrition Policies for Policy Advocacy on Multi-Sector Nutrition Plan has been supported by Save the Children, Nepal.

All the above-mentioned linkages apparently show that NPHF is credible organization, which is managed by highly skilled public health and occupational health personnel of Nepal. It further has multiple linkages with Ministry Level Advisory Committees, Health Policy Formulation Committees, Nepal Health Research Councils (NHRC), Public Health, Occupational Health, Nursing Faculty Executive Committee Members and Gender Experts. However, the other side of the fact is that they have multiple responsibilities as well.

2.7 The Project

The Project design, Farming, Health and Environment Project was based on occupational health and food safety. The overall implementation responsibility is shared between Dialogos, a Danish NGO and Nepal Public Health Foundation (NPHF), a local NGO in Nepal. The project, is funded by Civil Society in Development (CISU). Duration of the project is 2013-2015. The objectives are accomplished by teaching groups of farmers, pesticide dealers and health care workers, and train religious leaders and local representatives in advocacy for a more sustainable farming.

The Chitwan District, which is one of the most pesticide intensive areas in Nepal is to operate the project in five Village Development Committees (VDCs) Mangalpur, Jagatpur, Shukranagar, Bhandara and Chainpur. There have been projects in Nepal

focusing on Integrated Pest Management (IPM), with the purpose of reducing pesticide use. However the present project is the first one to combine a focus on reducing pesticides with awareness raising and advocacy amongst consumers, farmers, pesticide dealers, and district as well as national stakeholders, for a more sustainable farming production. Also the project is focusing on educating health care workers and female health volunteers in diagnosing, prevention and treatment of pesticide poisonings. The project is funded by the Danish Government, through the project grant fund. The total budget of the project is (USD) :264,381.18 (NRS 26,438,118.00). The 3 target groups for the project are: 1) Structural Actors (local partners) 2) Health Personnel 3) Farmers and dealers.

The overall development objective for the project is to contribute to improve the health of farmers and consumers by promoting a healthy and sustainable food production in Nepal.

The immediate development objectives are:

1. To strengthen the capacity of civil society actors to advocate for a healthy and sustainable friendly food production
2. To improve prevention and treatment of pesticide poisonings in the health care system and among actors from the civil society.
3. To reduce the health risks and pollution due to pesticides by promoting safer handling and ecological alternatives for pest control among farmers and dealers.

The Implementing Partners (IPs) of the project are Dialogos Denmark and Nepal Public Health Foundation Nepal (NPHF) collaborating with the stakeholders establishing Central Steering Committee (CSC) in the centre and District Advisory Committee (DAC) in the district to accomplish the objectives by teaching groups of farmers, pesticide dealers and health care workers, and train religious leaders and local representatives in advocacy for a more sustainable farming.

Dialogos Denmark is responsible for technical and financial support to the project. It further submits quarterly reports to CISU. Dialogos monitors the project to achieve its objectives as per planned. There are regular quarterly skype meetings between the Danish project group and the Nepali project group.

3. FINDINGS

The discussion in this chapter is structured along key evaluation issues. The findings are presented in the following 6 evaluation issues namely efficiency, effectiveness, impact, relevance, collaboration, coordination and sustainability.

3.1 Efficiency

The project has accomplished the planned project activities on time, which has 20 activities under 3 results. Table1 provides the summary of the main activities that have been implemented.

Table 1: Accomplished Activities from April 2013 - August 2015

Objective 1 (Organization and advocacy)	
Target Activities (December 2015)	Achieved Activities (August 2015)
1.1 Organize meetings to form a pesticide management committee in Chitwan district with the participation of local key stakeholders.	1.1.District Advisory Committee was formed. The name of the committee was changed into District Advisory Committee. (DAC).
1.2 Organize 4 training sessions for the pesticide management committee members in Chitwan district.	1.2.One day Workshop was organized in Chitwan for DAC.
1.3 Organize quarterly meetings of the pesticide management committee in Chitwan district.	1.3 Nine trimester DAC meetings were conducted in Chitwan.
1.4 Organize and train religious leaders to advocate for a healthy and sustainable food production in Nepal.	1.4 Was not organized.

<p>1.5 Produce, print and publish 10 articles about IPM and pesticide, health and environment in newspapers and other written medias.</p>	<p>1.5 Published 13 articles in local newspapers, magazines and souvenirs about safe use, reduction and alternative pesticide (detail information available in Annex 8).</p>
<p>1.6 Produce thirty radio spots for transmission in the whole country.</p>	<p>1.6. Eleven radio spots were aired but budgeted only for 15 spots.</p>
<p>1.7. Conduct 120 village meetings in Chitwan district to inform the population about the project, IPM and pesticides, health and environment.</p>	<p>1.7 45 village meetings in Chitwan district to inform the population about the project, IPM and pesticides, health and environment.</p>
<p>1.8 Strengthen Farmers Cooperatives in Chitwan to promote production and marketing of IPM products by advocating for healthier foods and offering this for sale on the markets.</p>	<p>1.8. Cooperative strengthening meeting were organized and demarcated their roles to pass their acquired knowledge to fellow members.</p>
<p>1.9 Organize an annual conference in Chitwan district about pesticides, health and environment, where experiences can be shared with other partners and entities to advocate for healthy and sustainable solutions.</p>	<p>1.9. Organized annual conferences on "No pesticide use rally" once annually, first and second year, in collaboration with DPHO and DADO.</p>
<p>1.10 Conduct studies through Nepali and Danish university collaboration on pesticides, farming and health related issues by students and lecturers.</p>	<p>1.10 Out of thirteen researches (4) completed and rest will be completed soon.</p>
<p>1.11. NPHF and project staff has been trained in project management once a year.</p>	<p>1.11. Project staff participated in few capacity building workshops/ conference in Nepal and abroad.</p>

Objective 2 (Health activities)	
2.1 Conduct a baseline study and later follow up survey to get an overview of the number and reasons for acute illness among farming families.	2.1. Baseline was conducted in (Oct-Dec, 2013). End line will be conducted October 2015 onwards.
2.2 Review of existing IEC materials and development and distribution of new IEC materials.	2.2. Developed 2 IEC materials pamphlets, posters and one flip-chart about prevention, diagnosis and treatment of pesticide poisonings are prepared and displayed in Health post and cooperative buildings of project sites. Hoarding boards were installed in DADO, member Cooperatives, 5 working VDCs.
2.3 Conduct five training courses for 30 health care workers in registration, diagnosis and treatment of pesticide poisonings.	2.3. Twenty-eight HCWs were trained, for registration, diagnosis and treatment of pesticide poisonings.
2.4 Conduct five training courses for 30 female community health personnel in the district about prevention, places for diagnosis, treatment and registration of pesticide poisonings.	2.4. Forty-three FCHVs of project areas were trained for prevention, referring places for diagnosis, treatment and registration of pesticide poisonings.
2.5 Introduce a registration system for pesticide poisonings and testing in Chitwan district	2.5. Pesticide poisonings and testing reporting forms were developed and registration system have been introduced since July 2014.
Objective 3 (Agricultural Activities)	

3.1 Conduct a baseline survey and later follow up survey among farmers about their use of pesticides, knowledge and practice in pesticide handling and symptoms of poisoning.	3.1. Base line survey was conducted in 2013. End line survey about use of pesticides, knowledge and practice in pesticide will be conducted from October , 2015 onward.
3.2 Gather existing information materials about IPM, PPE and safe storage of pesticides and produce and distribute new IEC materials	3.2. Four booklets, pamphlets, posters and one flip-chart about IPM and safe storage were developed and five were printed.
3.3 Conduct 10-15 theoretical and practical courses for 40 farmers on knowledge sharing, IPM, use of PPE and safe storage of pesticides.	3.3. Seventy four IPM farmers were trained on, use of PPE and safe storage of pesticides in a Farmers' Field School Approach.
3.4 Conduct five theoretical and practical courses on knowledge sharing, PPE, hygiene when handling pesticides and safe storage for 20 pesticide dealers in Chitwan.	3.4.23 Pesticide dealers were trained for IPM, PPE and safe storage of pesticide.

Table 2: Missing and Overlooked Activities

Target Activities (December 2015)	Reasons for not accomplishing
1. Religious leaders are spreading information and advocating for a healthy and sustainable food production and cleaner environment in Nepal.	Not Budgeted, however three leaders were involved in one day long DAC training organized in Chitwan.
2. One publication for school children about pesticide, health and environment exists by the end of year two.	Not Budgeted
• IPM-materials have been distributed to 500 farmer homes in the project district	Fellow farmers were involved only in knowledge and

from the second project year.	skill sharing.
3. A strategy on how to promote IPM products at the market is tried out and exists at the end of the project.	District IPM farmers' association was encouraged to start IPM product shop by the project. Two shops are serving, one in Rampur and another in Bharatpur.
4. There are professional pesticides sprayers in the working VDC but they were not incorporated in project activities	Emerged during the evaluation discussion
5. Organize Training of Trainers (ToT) for District IPM Farmers Association. The IPM farmers are the promoter/ facilitators of the IPM farming, enhancement of their capacities in a modified curriculum developed by the project would help to wider spreading out the new knowledge and skill in the district.	Emerged during the evaluation discussion

Project Management: NPHF is responsible for the overall management of the project. Out of project team of seven, two are part timer in the central level and rest five are at the project level one part timer and 4 full time staff. The two part time central office staffs are the Project Coordinator and Finance and Admin Manager. Five project staff includes Field Coordinator/Assistant project coordinator-health, Assistant Project Coordinator-farming (he is also part-time), Finance and Administrative Secretary, Driver and Office Assistant. The project staffs organize monthly meetings either in the project office or in the central office in Kathmandu.

The FHEP activities like training and other activities have been regularly monitored by the field staff to collect feedback from the farmers and the other stakeholders and to help to improve the ongoing activities. The local monitoring team also includes the IPM farmers facilitators, cooperative members, DADO and DPHO officers. NPHF regularly monitors and are involved in the major events. NPHF and Dialogos update each other by organizing skype meetings including the trimester reporting.

Additionally, the project has been collaborating with District Public Health Office, District Agriculture Development Office, University of Agriculture and Forestry, Chitwan Medical College. The project prepared a hoarding board containing issues of the chemical pesticides, in collaboration of DADO Chitwan, Bee Keeper Association, IPM farmers Associations. Similarly, the project has signed MoU with Agriculture and Forestry University Rampur to conduct research and development areas in public health issues.

District Advisory Committee (DAC) meets every trimester to evaluate the project performance and plans. Field visits and monitoring of the activities and sharing of the experiences of the project to their respective organizations is another task. The DAC member participates, monitors and supports the project activities in the relevant and concerned areas.

Central Steering Committee (CSC): Meeting of CSC was held in every quarter. Major agenda of the meetings were review of the achievement of previous quarter, discussion on technical report and financial report of each quarter, discussion on plan of next quarter, discussion on contemporary issues, etc. The meeting became helpful as a troubleshooter in many problems and challenges faced by the project. Despite all these good arrangements, the lack of role clarity of the CSC members, DAC members and the functional role of the NPHF board has been a missing entity in the project design. In the next project phase the role and responsibility has to be reflected clearly in the project document.

3.2 Fund and technical management of the project

In Denmark a group was formed responsible for the technical management and guidance of the Nepal project. The group consists of volunteers from Dialogos, ICOEPH experts and the faculty members of universities, the Danish experts with relevant knowledge and experience to guide the project on awareness raising and advocacy matters, OHS, farming and pesticides, research, education, information or administration.

The project administration is handled by expert from Dialogos, the overall economic administration of the project being the responsible referent to CISU. ICOEPH technical expert provides necessary technical OHS input to the project on a day-to-day basis through the internet and on an average visit to the project twice a year.

Dialogos secretary helps on managing the funds and a Danish auditor audits every year. Dialogos and ICOEPH would provide professionals to advice and participate in elaboration of training materials, course plans and some practical training. ICOEPH and Danish universities are engaged in doing research and researchers in collaboration with Nepali colleagues.

The key implementing partners both Dialogos Denmark and NPHF Nepal are well matched partners in terms of their similar concerns, commitments, credibility in the area of public health. Dialogos an international NGO based in Denmark needed a local partner to implement in Nepal. The expertise of the old partner did not match with the new project, thus, NPHF was selected, which had great potential to implement this project, to be able to fill the gap of knowledge on occupational health and environmental health in Nepal.

Their common ground was their expertise in the public health issues while Dialogos have had specialty on occupational health issues. As Nepal was still struggling for the basic and primary health issues, occupational health is still in initial stage. NPHF was highly involved into policy dialogue, research to implementation of those issues at the national level. A working agreement was signed between Dialogos and NPHF and commenced on the project in Chitwan district from April 2013. The duration of this project is 36 months in total. However, the project should have been started from January 2013, instead it commenced from April and would naturally continue until end of March 2016.

Two Dialogos members were working in the project as a part-time project coordinator, who was also partly involved as researcher, this being an international position. The full time field coordinator, which was a local position, was also a member of Dialogos. Both of the Dialogos members were heavily involved since the project designing stage, hence the field coordinator had strong ownership towards the project and was accountable to Dialogos Denmark.

As a result, the misunderstanding emerged between Dialogos Denmark, NPHF and field staff which affected the first half of the project implementation from April to August 2013. The field coordinator and the agronomist resigned and new personnel were recruited in September 2013. The new agronomist worked full-time for seven months and as a part-timer thereafter. Whereas the new Field coordinator is working to date, however the driver and admin secretary resigned from work. Also, part-time project coordinator resigned from the post in June , 2015, and was replaced by the new part-time project coordinator. The only old staff, the messenger, is still continuing from the start of the project to date. Most of the program staffs are enthusiastic and technically efficient with skills and knowledge required for the project, but the project is not guided by the participatory development approach. Participation is not a goal in itself but a means to achieve an objective, to establish solid relationships between beneficiaries and the project that leads to feeling of ownership and the interventions become sustainable.

Table 3: Trained Target Groups

Total Households	Trained Farmers	Key farmers	Fellow Farmers	Health Care Workers	FCHVs	Pesticide Dealers
Mangalpur	31	28	3	6	9	2
Jagatpur	33	15	18	8	9	3
Bhandara	31	8	23	7	9	6
Shukranagar	32	10	22	3	8	5
Chainpur	30	13	17	4	9	7
Total	157	74	93	28	43	23

The project has achieved most of the planned activities despite the difficulties faced in the initial stage of the project. The resources has been allocated for three results (Table.3), it has been allocated into eight headings. Three headings for three results, the fourth category was for achieving all the three results. The fifth heading is investment that is for office furniture and equipments, the sixth budget heading is for local staff, the seventh heading is for local administration, the eight heading is for total management cost that includes the Head office for admin support, transport and communications since 2013, NPR 18000.00 the lump sum amount, that is more than minimum has been allocated. There was no budget allocation for religious leaders training and a publication for school children about pesticide, health and environment.

Table 4:Actual expenditure per result/ budget head April 2013- June 2015

Results/Budget Head	Total Program Budget	Expended %
Result 1: strengthen the capacity of civil society actors to advocate for a healthy and sustainable friendly food production	3,357,270.00	55%
Result 2: improve prevention and treatment of pesticide poisonings in the health care system and among actors from the civil society.	2,038,890.00	56%
Result 3: reduce the health risks and pollution due to pesticides by promoting safer handling and ecological alternatives for pest control among farmers and dealers.	3,249,960.00	62%
Common program cost for three objectives	2,299,500.00	54%
Total Program Cost	10,945,620.00	57%
Investment	3,817,170.00	103%
Local staff cost	8,998,710.00	59%
Local administration	2,676,618.00	85%
Total management cost	15,492,498.00	75%
Total expenditure	17,791,301.89	67% expended

The overall assessment of the evaluators is that the implementations have been cost effective.Total expenditure of the project till date is Rs 17,791,301.89 that is 67% of the

budget. NPHF is quite particular in maintaining financial discipline. The remaining of the unspent budget was partly due to the amendment of salary and allowance into the Nepali/NPHF standard as the first batch of employees were replaced. Remaining budget should spend on the unfinished activities and the overlooked issues mentioned in Table 2 of the report.

Non allocation of budget for religious leaders and a publication for school children about pesticide, health and environment has created confusion in the implementation management cost in the head office is below the standard. The Head office at least needs to have budget for the utilities (water, electricity, office expenses and sanitation, etc.) and account software both for the local office and head office.

3.3 EFFECTIVENESS

The Table 6 below shows, the three results presented together with their end results. Target values accomplished reflects till the end of August 2015. It is important to keep in mind that there is 6 months remaining period before the completion of the project. An effective use of time and resources can achieve the remaining activities mentioned in Table 2.

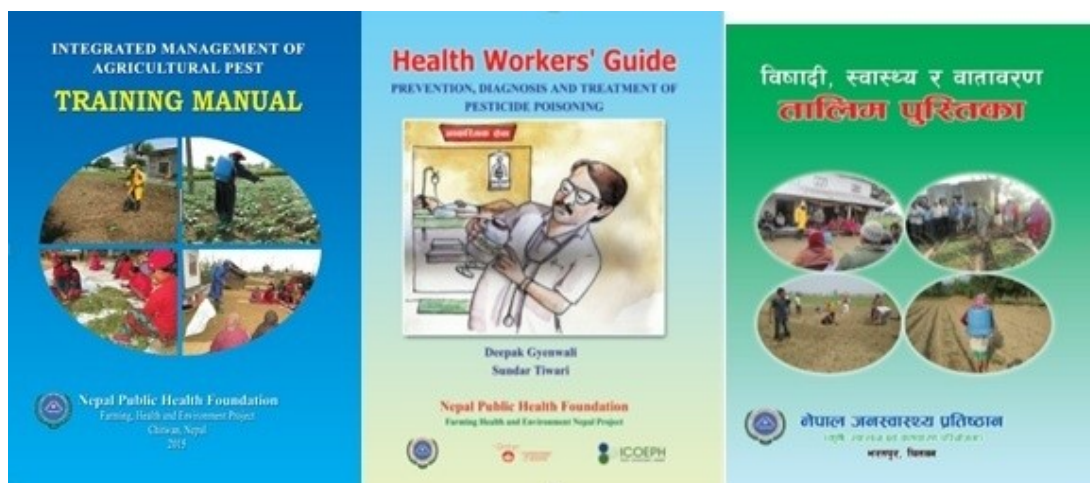
During the meetings, it was obvious that the target groups directly trained by the staff had learnt by heart and the new knowledge were found adopted in their personal life as well as in farming and health care system. The knowledge on safe use of pesticides for healthy living was tremendously appreciated by the entire target groups and demanded to extend and expand in the wider area. Relevant examples are discussed in connection to the results.

Results:1. Organization and Advocacy:

- The formation of Central level Steering Committee (CSC), District Advisory Committee (DAC) in the project area, who worked closely collaborating with some of the concerned stakeholders show cooperation is more active at the district level. District Agriculture Office, Chitwan, District Public Health Office, Chitwan, District IPM Farmers Association, Agriculture and Forestry University, Rampur, Chitwan Medical College (CMC), are actively involved stakeholders in the district, in both implementation and monitoring of the program.
- The project in association of IPM Association partner cooperatives and DADO organized ‘No Pesticide Use Rally’ with participation of 150 people in Chitwan, similarly a role play was demonstrated about ‘The Negative Side-effects of Chemical Pesticides’ to spread the message clearly.
- A District level Conference about the safe use of pesticides and alternative to pesticides in collaboration with DADO, DPHO, DDC Chitwan, Chitwan Chamber

of Commerce and Industry, partner cooperatives, pesticide dealers and farmers were annually organized.

- IEC Materials Including Training Manuals And Books were prepared on safe use of pesticides, prevention, diagnosis and treatment. Additionally, a video, 9 fliers, 4 posters and a hoarding board were prepared and published. Detail information are available in Annex 6



Picture 1:Health workers guide and training manuals

- The hoarding boards are displayed in all member Cooperatives, Health posts of the working VDCs and District Agriculture Development Office.
- Cooperative strengthening meetings were organized to demarcate their roles on the safe use of pesticides and production of healthy food.
- Awareness for school level students about negative side effect of pesticides were organized in one of the schools of the working VDCs.
- Prepared Hoarding Boards highlighting the issues of pesticides and displayed in five VDCs and DADO.
- Signed MoU with Agriculture and Forestry University to conduct joint research on wrong agricultural practices and injudicious use of antibiotic in farm animals and poultry. Four Master's level students received research grant from the project and are on the stage of completion. University of Agriculture have had important and very relevant results from their research.
- Campaign of pesticides container management were initiated in the 5 partner cooperatives by organizing discussions for safe disposal of those containers.

- **Awareness Raising:** Safe uses of pesticides were impressively delivered organizing conference, workshops, interactions, role plays, demonstration etc.
- **Research:** 13 Research were conducted on pesticides and health related issues, by NPHF, Nepali and Danish university students, this also includes the research mentioned above by the four students of Agriculture and Forestry University. Detail information in terms of principle investigator, university/institutions are present in Annex 7.

Result 2 Health Activities:

- Health workers show understanding of coherence between pesticides and health effects. Trained 28 HCWs are largely positive, who enthusiastically applied in their personal behavior, incorporated into diagnosis, prevention and promotional activities into the health care system.
- Trained 43 FCHVs have mixed responses, who personally benefitted by the acquired knowledge and skills, however trainings to the “mothers group” faced constraints due to many other obligations, priorities, lack of materials and incentives.



Picture 2: Posters and Hording Boards

Result 3 Farming Activities:

- Farmers Cooperatives and dealers are aware of pesticide dangers
- 74 farmers directly trained with Farmers Farm School (FFS) methodology have largely appreciated and adopted, storage of the chemical pesticides into a box mostly with locking system which is one of the visible indications.

- 23 Agro-vet dealers were trained and among the 6 visited found that the acquired knowledge and skills were applied in their personal behaviour, which includes, personal safety measures like face mask, separately storing pesticides and non-pesticide items. The spilled pesticides are cleaned as taught, keeping the pesticide into the glass selves, have been applied by a few.
- Farmers are happy to get opportunity on safety measures from the health perspectives, however, they requested to have alternative pesticides to increase their production, fair rates for the (safe) vegetables they produce.

Table 5: Project indicators and Achieved Values

Objective 1 (Organization and advocacy)	
Project Indicators (January 2013 – December 2015)	Achieved Values (August 2015)
1.1.A pesticide management committee representing local stakeholders is established in Chitwan and has taken at least three major actions to control pesticide intoxications and pollution e.g.:	1.1.District management committee formed and meets trimester, monitoring and supervision by the staff and few DAC members.
a. A positive list of pesticides for use in IPM-farming in Chitwan is available to farmers and dealers	a.A positive list of pesticides for use in IPM farming in Chitwan is available to farmers and dealers
b. Storage and sale of pesticides in Chitwan is supervised and monitored by the pesticide management committee.	b.Storage and sale of pesticides in Chitwan is supervised and monitored by the project staff.
c. District campaigns have been undertaken to increase the knowledge of the general population in Chitwan about pesticides, health and environment.	c.District campaigns have been undertaken no 'pesticide rally' to increase the knowledge of the general population in Chitwan about pesticides, health and environment.

1.2. Forty farm leaders and 30 religious leaders are advocating for a proper use of pesticides collaborating with the local representation of MoAC.	1.2. 74 farmers and 93 fellow farmers are advocating for a proper use of pesticides.
1.3. NPHF has strengthened its capability to conduct OHS activities within their work frame of public health.	1.3. NPHF has efficiently coordinated and organized OHS activities.
Objective 2 (Health activities)	
2.1. Thirty health care workers are capable of diagnosing and treating acute pesticide poisoning.	2.1. The trained 28 HCWs are largely positive, enthusiastically incorporated into diagnosis, prevention and promotional activities into the health care system. Lack of infrastructure and closer access of the hospitals, the patients prefer to go to the hospitals.
2.2. Thirty volunteer health educators, farm leaders and religious leaders are educating villagers about prevention of intoxications with pesticides.	2.2. Forty three FCHVs, seventy four trained farmers are educating mothers, fellow farmers, family members, neighbours community members about prevention of intoxications with pesticides.
2.3. Materials for diagnosis, treatment and prevention are available and in use by health institutions and NGOs inside and outside the project area.	2.3. Reporting forms for health care system were developed and registration system have been introduced in the 5 working VDC health posts.
Objective 3 (Farming activities)	
3.1. Farmers have fewer symptoms of pesticide poisoning after pesticide handling sessions.	3.1. End line study and follow up surveys/interviews with target groups in December 2015.

<p>3.2. Forty trained farmers use IPM methods e.g. use less toxic pesticides and ecological methods, use proper protection and hygienic procedures when handling pesticides, use proper storage of pesticides etc.</p>	<p>1.2. Seventy four were trained farmers Using IPM methods in Farmers Field School Approach, on use of less toxic pesticides and ecological methods, use proper protection and hygienic procedures when handling pesticides, use proper storage of pesticides etc.</p>
<p>3.3. Twenty trained pesticide dealers are giving advice to farmers and other pesticide users on the use of less toxic pesticides, promoting the use of PPE and proper storage of pesticides.</p>	<p>3.3. Twenty three pesticide dealers were giving advice to farmers and other pesticide users on the use of less toxic pesticides, promoting the use of PPE and proper storage of pesticides.</p>
<p>3.4. Materials in IPM are available and in use by farmers and pesticide dealers inside and outside the project area.</p>	<p>3.4. Materials in IPM are available and in use by farmers and pesticide dealers inside and outside the project area.</p>

Approach: Directly educated by the experts are highly appreciated and adopted. “Even an hour long session was equivalent to 3 month long training” said many cooperative members.

3.4 Training

FHEP has used the training as the main methodology. The methodology can be clear if described in a form of pyramid. That is the expert trained the IPM facilitators and they trained the farmers and the farmers trained their fellow farmers both theory and practices.

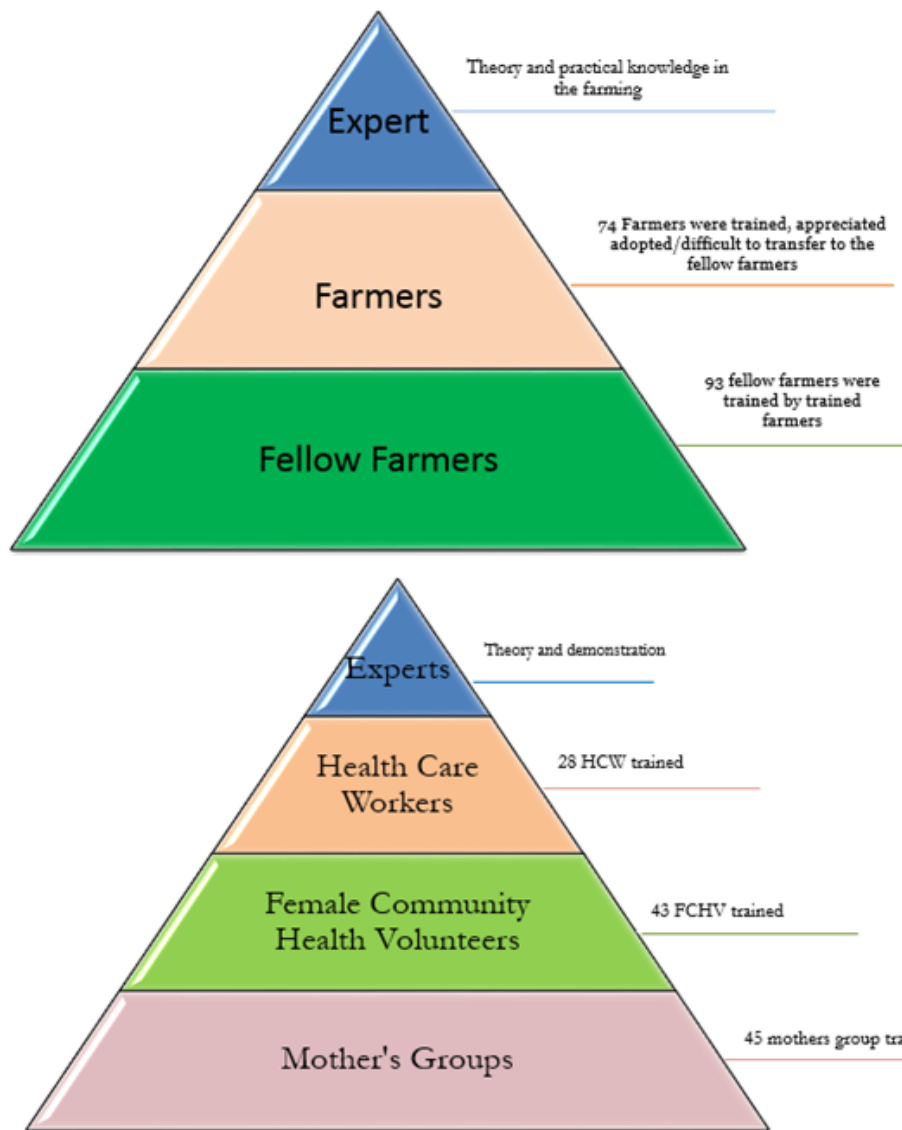


Figure 3: A Pyramid Form of Methodology of Teaching

The methodology involves three interfaces: the expert to the farmers, farmers to the fellow farmers - and fellow farmers and envisioned to reach the community.

In terms of the health sector it has four interfaces, the experts trained the HCWs and the FCHVs trained their respective mothers groups of the ward they belong to. Nepal has one FCHV in every ward of the VDC. Ward is the smallest unit of the VDCs and the Municipalities also have the similar arrangement depending on the population.

The idea to train fellow farmers by trained farmer and trained FCHVs to mothers groups in a Training of Trainers (ToT) principle have mixed results. Principally, the trained

farmers need to teach the fellow farmers and the FCHVs to the mothers groups. The principle of ToT was incorporated without considering the technical knowledge, skills and required teaching materials and equipments. Hence, those who have natural talents, highly motivated and esteemed positions in the community have had transferred the knowledge to the fellow farmers and mothers group correspondingly. Large group of farmers and FCHVs were complaining that the fellow farmers were not willing /ready to learn from them. A lady farmer from Sukra Nagar, VDC is an example of how a single woman participated in the workshop – she taught all other women (28) in her women groups – about the dangers of the pesticides and how to be safe from it.

Gender: Attempt of gender balance means fair distribution of benefits, power, resources, and responsibilities between women and men. Women and men have different roles, needs, access to, and control over resources. Gender strategies are used to eventually attain equitable benefit for men, women including their children to increase the effectiveness and efficiency of public health practices. With that purpose FHEP had expected gender distribution 60% male and 40 % female in the structure actors, 30% male and 70 % on health personnel, and 75% male and 10%² (should have been 25%) in farming. Gender tracking of the project shows higher participation of women in the lower institutional strata and downing representation in the upper institutional strata. The project in the next phase needs to initiate effort to increase numbers of women in the upper institutional strata, as well.

Table 6:Gender Tracking of the FHEP

Level	Total Number	Total %	Male	%	Female	%
Central Level						
Steering Committee in KTM:	13	100	11	84.6	2	15.4
District Level	11	100	10	91	1	9
Advisory Committee						
Project Staff	8	100	6	75	2	25
Community Level						
Pesticide Dealers	23	100	20	87	3	13

² page 14, Farming Health and Environment Project Document.

Level	Total Number	Total %	Male	%	Female	%
Farmers	74	100	34	46	40	54
Cooperatives	61 (in 5 cooperatives)	100	43	70.5	18	29.5
Health Care Workers :	28	100	12	43	16	57
Female Community Health Volunteers :	43	100	0	0	43	100
Total number of men and women beneficiaries in 5 working VDCs.	168 (D.B.)		66	39	102	61

3.5 Monitoring and evaluation of the project implementation

In Denmark a project group was formed meeting quarterly, to revise project plans, quarterly reports and accountability and provide technical input and supervision to the project where needed. A person from this group has the direct day-to-day communication with the project personnel. Ad hoc meetings were organised when necessary. From this technical project group expertise small issues were solved from Denmark .

On October 2013, Founder member of DIALOGOs came for monitoring of the project. He monitored the project activities in Chitwan and organized a half day workshop on accountability in NPHF office. The project staff, NPHF board members and CSC were the participants of the workshop. As an invitee he also participated in the CSC meeting on October 22, 2013. The meeting as usual reviewed and evaluated the project activities- both program and financial, carried out in second quarter.

The part time project coordinator from Dialogos was frequently monitoring the project activities in Chitwan. On September 18 - Oct 2, 2015 the Dialogos Nepal Desk Manager and the General Secretary of the Dialogos Secretariat participated partially in the evaluation activities.

Lack of role clarity and budget allocation for the Central Steering Committee and District Advisory Committee for their active involvement, were not fully functional and its potential has not been fully used. Despite highly relevant and effective to the target groups, the top down approach of the project has been technically very successful but lacking ownership among the target groups, a pathway for the continuation after the

termination of the project should be prepared from the beginning of the project. The gap has to be fulfilled in the second phase, with a participatory planning from the level of the target groups, collaboration of the local bodies like the VDCs and municipalities, strengthening of the cooperatives can be effective approaches for sustainability of the project.

IMPACT: Trained farmers and health care workers are capable of adopting the learning into their farming/ health care systems. The entire target groups have now changed their attitudes towards the pesticides, their notion of 'medicine' to pesticide changed into 'poison'. They are careful and aware that pesticides are poisonous, so needs safe handling, storage. Safe storage of pesticides into a box can be seen in almost every trained farmers' houses, disposal of the pesticide containers, and drop into the collection centre are the widely adopted visible practices. As stated by the farmers they now use the protective measures whatever is locally available that includes wearing long sleeve dresses, pants, hats or hair wrappers (some even used motorcycle helmet), and plastics. Practicing of spray in the morning and afternoon, not against the wind direction, understanding the nature of the insects, spray targeting correctly to the area where it has to be sprayed in windy days sprays following the direction of the wind are the adopted knowledge from training.

As this project concept and approach are innovative so the target groups wished to learn more. Despite all these good impacts the knowledge and practices are not yet strongly rooted into the community, the new knowledge is still insufficient. Due to thin area coverage that includes only 5 cooperatives, 157 households, 5 health posts, which would not be enough to change the behaviour of the entire community.

RELEVANCE: The project and its activities have greatly responded to the needs of target groups. Its high relevancy shows from their responses as, some farmers expressed: 'Oh my god I am still alive despite careless handling of poison', some said 'we were soaked into the poison since last 20 years'. Health workers expressed that this is highly beneficial, relevant and need to incorporate into the government health system.



Picture 3:Farmer storing pesticide into a box

SUSTAINABILITY: The target groups have learnt and internalized most of the knowledge. Their knowledge about health and pesticides is new. The project needs to strengthen the target groups providing advanced level training for their own use and to be able to spread the knowledge to the others. The sustainability of the project could be ensured by tying-up with the local bodies like VDC, municipalities and DDCs for funding and support that would be advantageous to continue the project activities. Sharing each other's experience about effective use of pesticides and health would help on consolidation of new knowledge for strong adaptation.

3.6 Collaboration and Coordination

The Implementing Partners (IPs) of the project are Dialogos-Denmark and Nepal Public Health Foundation-Nepal (NPHF) collaborating with the stakeholders establishing Central Steering Committee (CSC) in the centre and District Advisory Committee (DAC) in the district to accomplish the objectives by teaching groups of farmers, pesticide dealers and health care workers, training religious leaders and local representatives in advocacy for a more sustainable farming. The CSC was formed with the representatives, like Chief Entomologist, Nepal Agriculture Research Council, Pesticide Registrar, Plant Protection Directorate, Ministry of Health and Population, Nepal Red Cross Society, Director, Department of Labour, Nepal Health Research Council, DILYAK Monasteries, Kathmandu Medical College and Nepal Public Health Foundation.

The DAC committee members are the representatives of the Institute of Agriculture and Animal Science Rampur (IAAS), District Public Health Office(DPHO), District Administration Office (DAO) District Agricultural Development Office (DADO), Nepal Red Cross Society, Fresh Vegetable and Fruits Production Cooperative, representatives from Agro-vet and NPHF.

4. CONCLUSIONS AND RECOMENDATIONS

4.1 Conclusions

The project has had envisioned active collaboration with the stakeholders. At the local level the collaboration is much to be appreciated. Stakeholders like District Agriculture Office, District Public Health Office, Chitwan Medical College, and the Agriculture and Forestry University Rampur, IPM farmers association and Cooperatives had active roles. The Central Steering Committee contributed constructive feedback in their routine trimester meetings conducted in Kathmandu on the clarity of roles and responsibility of the members. Ministry of Agriculture has active collaboration with the project, whereas, Nepal Health Research Council and Kathmandu Medical College had some involvement. The local bodies like the VDCs municipalities and DDC were not in the project's network. Collaboration with women's groups, school teachers can be very effective for awareness raising. Farmers/Agro-vet reported that when the pesticide residue testing equipment was installed in Kathmandu the selling of chemical pesticides dropped down to 60 – 80 percent. This equipment has to be installed as it has double benefit to the farmers and consumers. The safe vegetable producing farmers will get fair rate for their product and the consumers, as well, will be able to get safe vegetables. This indicates that Nepal Federation of Chambers of Commerce, Consumers Associations can be the potential partners in the second phase of the project.

The main recommendations of the evaluation are directed into the future. This is because there is only 6 month remaining time in this project and this project has to be continued as the target group needs to learn more to be established. Thus, Dailogos and NPHF partnership and financial contribution of CISU is vital.

4.2 Recommendations

Considering the next phase, it is recommended that:

No major change to modalities: The multi sector feature of the project farming with health is an inventive combination, collaborating with the key stakeholders like the DADO, DPHO, DAO, IPM farmers association, Cooperatives, University of Agriculture and Forestry for research and other IPM related activities, Hospitals for pesticide poisoning research and health promotional activities needs to be continued at the district level. Additionally, school teachers, farm extension workers and existing active women's group should also be included in the awareness raising activities in the second phase.

Increased Geographical Coverage: Despite being a successful project, it worked in 5 VDCs without any activities at the central level, Kathmandu. For more impact the project should be spread in the other VDCs of Chitwan districts. During the base line studystudy on knowledge, attitude and practice on use of pesticides and it's effect had chosen five control VDCs. As such inclusion of these 5 VDCs in the second phase

would be sensible as they are already in contact with the project and are pesticide prone VDCs. Chitwan also has mountain VDCs, one or two of those VDCs should also be incorporated into the second phase of the project.

Review the Training Approach: Directly taught by the experts are highly appreciated and adopted, some farmers expressed that 'even an hour session was equivalent to 3 month long training'. Large group of farmers and FCHVs were complaining that the fellow farmers/mother's groups were not willing or ready to learn from them. Two options can solve this problem. Option one could be to develop the capacity of the trained farmers and the FCHVs by providing Training of Trainers (TOT) and equipping them with enough numbers of simple IEC materials and videos. The second option could be mobilizing the school teachers and the HCWs to raise awareness, while the FCHVs and trained farmers could help in gathering the people from the community

Advocacy Activities at the National Level: The project has developed 23 IEC materials that includes 7 training manuals/books and flip charts (some of which are endorsed by Nepal Government) on prevention of pesticides poisoning and safe use of pesticides. These valuable books /manuals and IEC materials should be circulated as well as the findings of the research should also be disseminated at the national level. As rightly pointed out by the HCWs the proven knowledge should be adapted in the government health care system of Nepal. In association with the central level stakeholders NPHF should also promote these curriculums. Additionally, OHS knowledges and skills should be enhanced by sharing with the concerned stakeholders. Lobbying for regular monitoring of pesticide residue testing equipments in Chitwan and Kathmandu should also be installed in the second phase of the project.

Functional Roles of the Stakeholders and NPHF: There was a lesson learnt from the project implementation about the roles and responsibilities of the stakeholders and the implementing partners. It should be clearly reflected in the project document for active involvement of the various actors, to produce effective and efficient results and sustainable outcomes.

Challenges: The open border and leased farming by the Indians is the big challenging issues for FHEP. These Indians buy huge amounts of pesticides and easily carry from their country to Nepal. They also are focused on the commercial production. They take their products directly to the markets which are consumed without knowing the pesticides residue. The production cost of those people is very low and the middle man can easily buy it and sell with considerable margins than the safely produced vegetables. Another big challenge for the project is the unavailability of alternative pesticide and limited researches on bio-pesticides.

Alliance for Safe Vegetable Marketing: All though farmers are happy to get the opportunity to produce safe vegetables from the health perspectives, at the same time they are in tough competition with other unsafe products in the market. That is why, they also want to have alternative bio-pesticides to increase their production and fair

rates for the safe vegetable they produce. Federation of the Nepal Chambers of Commerce can be a potential stakeholder for marketing of the quality product (safe vegetable), as well as the consumers association can be the other potential stakeholders, who can create pressure for regular monitoring of pesticide residue and to ensure safe/quality vegetables.

Collaborate with DDC, Municipalities and VDCs: The local bodies are responsible to support the local communities. They are the bodies who play vital roles at local level in planning and implementation. Hence, it would be effective and sustainable if they tie-up with DDC, Municipalities and VDCs.

Capacity Building on Participatory Development: Capacity Building in participatory development is the core value of CISU and also the foundation to create the feeling of ownership and sustainable development. Participatory development is a process through which stakeholders can influence over the decisions and resources that affect them. Participatory planning and implementation enhances effective results and fosters a sense of ownership. It is a proven fact that when citizens develop a sense of ownership, it would be more sustainable.

Advanced Level Training for the Existing Groups: The target groups have learnt and internalized the knowledge. They need to provide advanced level training to strengthen their capacities for their own use and to be able to spread the knowledge to the others.

Develop an IPM Resource Centre: One resource centre of IPM or pesticide safety within the district should be established. It should always need to consider the next steps after project terminates. If the project develops a resource centre with lots of information either in the Agriculture and Forestry University or DADO, this will disseminate the knowledge and skills after the termination of project.

Knowledge Sharing at All Levels: The project has to share the newly acquired OHS knowledge, with the likeminded groups, people and stakeholders. It should create forums/process to promote and consolidate the OHS knowledge at all levels including community, district, national and international.

Accomplish the Unfinished and Overlooked Activities: The remaining budget of the project should be used in the unfinished, overlooked activities mentioned in table 2 of the report and staff capacity building.

Annex 1: Term of Reference

TERMS OF REFERENCE

Project evaluation:

Farming, Health and Environment, Nepal 2013-2015

1. Purpose

The present terms of reference proposes a strategy for the evaluation of the “Farming, Health and Environment, Nepal 2013-2015” project, funded by Civil Society in Development (CISU). The overall implementation responsibility is shared between Dialogos, a Danish non-governmental organization (NGO) and Nepal Public Health Foundation (NPHF), a local NGO in Nepal.

2. Background

The project “Farming, Health and Environment 2013-2015” takes place in Nepal, Chitwan district, which is one of the most pesticide intensive areas in Nepal. The project operates in ten village district committees (VDCs).

Intervention VDCs – Mangalpur, Jagatpur, Bhandara, Shukranagar and Chainpur
Control VDCs – Sibanagar, Gitanagar, Jutpani, Kumroi, Padampur

There have been projects in Nepal focusing on technical pesticide management, with the purpose of reducing pesticide use. However the present project is the first to combine a focus on reducing pesticides with awareness raising and advocacy amongst consumers, farmers, pesticide dealers, religious groups and district as well as national stakeholders, for a more sustainable farming production. Also the project is focusing on educating health care workers and female health volunteers in diagnosing, prevention and treatment of pesticide poisonings.

The project period is from April 2013 to April 2016.

The project is funded by the Danish Government, through the project grant fund.

The 3 target groups for the project are: 1) Structural Actors (local partners) 2) Health Personnel 3) Farmers and dealers.

The overall development objective for the project is to contribute to improve the health of farmers and consumers by promoting a healthy and sustainable food production in Nepal.

The immediate development objectives are:

- Objective 1: To strengthen the capacity of civil society actors to advocate for a healthy and sustainable friendly food production
- Objective 2: To improve prevention and treatment of pesticide poisonings in the health care system and among actors from the civil society.

- Objective 3: To reduce the health risks and pollution due to pesticides by promoting safer handling and ecological alternatives for pest control among farmers and dealers.

The objectives are accomplished by teaching groups of farmers, pesticide dealers and health care workers, and train religious leaders and local representatives in advocacy for a more sustainable farming.

Monitoring of the projects objectives and indicators takes place through quarterly reports from the NPHF, quarterly meetings in the Danish project group and with the Nepali project group. The local partner has monthly meetings in the local project group, and a local steering committee is set up to oversee project activities and outcomes.

3. Evaluation Objectives

The overall objective of the evaluation in September 2015 is to assess the performance of the project and the activities defined in the project document and at the same time, on the basis of the findings, come up with relevant suggestions and recommendations for the remaining time of the current project, and – if found feasible – also for a possible second phase of the project.

Considering the overall objective, the following are the specific objectives for the proposed evaluation:

- Evaluate project performance as regards the preparation and implementation of plans and achievement of targets and objectives.
- Recommend adjustments to reach project objectives during the rest of the project period.
- Formulate experience gained from the project in relation to project preparation and implementation.
- Evaluate the capacity of NPHF as an NGO.
- Assess the capacity building and skills training needs of NPHF to gain improved efficiency, effectiveness and readiness for scaled-up work in future project.
- Evaluate the gender dimension in the project

4. Scope of work, related to evaluation objectives

The task of the evaluation will include, but not be limited, to:

1. Project implementation and performance

- Assess project implementation and constraints in connection with the implementation.
- Assess and analyze the relevance of activities to the project objectives.
- Assess and analyze whether a balance between the major activities and supportive work at different levels was attained.
- Assess whether the target groups and beneficiaries are appropriate.

- Assess the economic aspect of the project.

2. Achievement of objectives, as described in the application for the project.

- Analyze objectives and achievement of objectives and outputs.
- Assess and evaluate performed activities.
- Assess the relevance and effectiveness of training/workshops and supervisory activities with regard to their appropriateness and methodology (repetition of baseline-study from beginning of project). Evaluate and analyze factors contributing to success or failure to achieve objectives
- Assess the sustainability of and follow up on trained groups.

3. Project management

- Assess the structure, management and administration of the project.
- Assess coordination of activities within the project area according to the defined project activities.
- Assess the function of the steering committee and coordination at regional and central level.
- Assess the ways of communication between NPHF and Dialogos.
- Assess the reporting on and monitoring of project activities.

5. Methods of evaluation

To perform the evaluation it is necessary to collect relevant data and statistics from the existing archives in a participatory approach. As there has been an initial baseline-study, a new one will have to be carried out in accordance with the evaluation to assess possible changes.

The evaluation team is to meet with stakeholders and beneficiaries of the project at two levels: organizational and communities. Meetings will also be held with various representatives of other partners. Data may be collected with documents review, key informant interviews, focus groups, community meetings, and observations.

6. Presentation of results and evaluation report

Evaluation results must be presented and discussed in a workshop with project partners in the end of September 2015. A first draft of the evaluation report must be presented to Dialogos and NPHF no later than October 10. Feedback from the partner from October 15, 2015, and the final report at October the 19 th October 2015.

7. Composition of the team to perform the evaluation and time schedule for the evaluation

The evaluation is to be carried out by external Nepali evaluator. Representatives from Dialogos will be present during part of the evaluation. The evaluation will take place from August 20, 2015 to October 19, 2015.

Annex 2: Field Visit Schedule

Farming Health and Environment Project, Evaluation Schedule

Date	Day	Activity	Location
August 19	Wednesday	Meeting with NPHF	KTM
August 20	Thursday	Desk Review	KTM
August 21	Friday	Desk Review	KTM
August 24	Monday	Developing detail methodology, checklist	KTM
August 25	Tuesday	Meeting with Project Coordinator	KTM
August 26	Wednesday	Meeting with steering committee members	KTM
August 27	Thursday	Meeting with steering committee members	KTM
August 28	Friday	Meeting with steering committee members	KTM
August 31	Monday	Desk Review	KTM
September 1	Tuesday	Desk Review	KTM
September 2	Wednesday	Meeting with NPHF Board Member	KTM
First: Chitwan Field Visit			
September 3	Thursday	Meeting with Chainpur Cooperative, Trained farmers, Fellow farmers, Agro- vets, Chainpur Health Post,	Chitwan
September 4	Friday	Meeting with Bhandara, Cooperative, Trained farmers, Fellow farmers, Agro- vets, Health Post,	Chitwan
September 5	Saturday	Meeting with DAC meeting, IPM facilitator Association,	Chitwan
September 6	Sunday	Meeting with Jagatpur, Cooperative, Trained farmers, Fellow farmers, Agro- vets, Chainpur Health Post,	Chitwan
September 7	Monday	Meeting with Sukranagar, Cooperative, Trained farmers, Fellow farmers, Agro- vets, Chainpur Health Post,	Chitwan
September 8	Tuesday	Meeting with Mangalpur, Sukranagar, Cooperative, Trained farmers, Fellow farmers, Agro- vets, Chainpur Health Post,	Chitwan

Date	Day	Activity	Location
September 9	Wednesday	Departure to KTM	KTM
September 7 – 10	Monday – Thursday	Field note preparation / Evaluation Results	KTM
September 11	Friday	Analyzing Data / Evaluation Results	KTM
September 17	Thursday	Analyzing Data / Evaluation Results	KTM
September 18	Friday	Arrival of Birgette and Annie (Meeting with Birgette and Annie)	KTM
September 19	Saturday	Meeting with NPHF, stakeholders	KTM
September 20	Sunday		KTM
September 21	Monday	Meeting with the stakeholders/ Steering Committee Members	KTM
Second field visit with Dialogos representative Dr. Birgitte Zwicky-Hauschild Ms. Annie Oehlerich			
September 22	Tuesday	Meeting with project staff, farmers, few home visits of trained farmers, fellow farmers, Agro – vets of Chainpur VDC.	Chitwan
September 23	Wednesday	Meeting with Bhandara Health Post HCW and FCHVs	Chitwan
September 24	Thursday	Meeting with Agriculture and Forestry University Rampur, Jagatpur fresh vegetable cooperatives, Women’s group Sukranagar (Asarmina’s Group) and home visits	Chitwan
September 25	Friday	Meeting with Mangalpur Farmers group, Dialogos presentation about the purpose of the visit to the target groups representatives	Chitwan
September 26	Saturday	Sharing and planning meeting with project staff	Chitwan
September 27	Sunday	Back to KTM by Office vehicle	KTM
September 28	Monday	Off day	KTM

Date	Day	Activity	Location
September 29	Tuesday	Meeting with Monastery and Organic garden Visit , Meeting with Embassy of Denmark	KTM
September 30	Wednesday	Discussion on Future activities	KTM
October 1	Thursday	Final Presentation	KTM
October 2	Friday	Departure of Birgitte and Annie	KTM
October 2 - 10	Saturday -	Submission of Draft report	KTM
October 10 - 15		Feedback from Dialogos and PHFN	KTM
October 1- 19		Finalizing the Evaluation Report	KTM

Annex 3: Interview Checklist

1. Checklist for Implementing Partner

Background

- Please kindly state, when and why NPHF was formed? The Vision, mission, goals, objectives key programs, strengths, weaknesses, opportunities and constraints of NPHF?
- How and why Diologos and NPHF became an implementing partner for FHEN project?
- Have Diologos and NPHF been communicating as agreed on the cooperation agreement?

Efficiency

- Have you been able to implement the activities as per plan and budget? Were there any gaps in the organizational capacities? If yes what were the gaps and how those gaps were addressed?
- Have the roles and responsibilities of the partners, CSC, DAC, and staff been clear and functioning accordingly?
- Have the target groups and beneficiaries been empowered economically from the project activities?
- Were the resources of the project been utilized in a cost effective manner if yes how?

Effectiveness and Impact

- Has the project been able to achieve its objectives as planned? Major achievements of the program from 2013- August 2015 in terms of 3 results?
- What were the major activities 'healthy sustainable friendly food production' ?
- Have the farmers/fellow farmers/ pesticide dealers and HCWs/ FCHVs adopted the knowledge and skill into their day today work ?
- What were the major activities for strengthening the capacity of civil society actors to advocate for 'healthy sustainable friendly food production'?
- Have the activities been routinely monitored and documented and corrective actions taken as required?
- How men and women have benefitted from the program? How gender concerns were addressed in the project?
- Are there any success stories or lessons learned?

Relevance

- Were these project activities addressing the need of the civil society in the country context and in the field area?
- Were the project approach/ methodologies relevant (awareness raising in safe use of pesticide) on 'safe and appropriate management of pesticide'?
- What were the major constraints for achieving the targeted results were there any solutions?

Sustainability

- What are the vision and future plan for the continuity and sustainability of activities implemented?
- What are the major constraints for achieving the targeted results and what are the solutions?
- Staff turnover rates? Are there any specific capacity building needs that they have which FHEP must address?
- Have the training and workshops been relevant or effective to its target groups?
- How the activities implemented can be made more effective in future?
- Have follow up activities been planned for continuation of the activities implemented for the target groups?

Coordination, Complementary and Coherence.

- **Internal coordination and coherence:** How is the coordination between Dialogos, NPHF the farmers groups, cooperatives, pesticide dealers, project office, health workers, Female Community Health Volunteer (FCHV) Central Steering Committee (CSC) and District Advisory Committee (DAC)?
- Coordination between the stakeholder that includes Universities/ GOs, local bodies, Hospitals and Medical Colleges?

2. Checklist for Farmers/ Fellow Farmers/ Pesticide Dealers, Health Care/ Workers and Female Community Health Volunteers

Efficiency

- How was the group formed? How many members are there in your group?
- What were the key activities of your group and how long was the training?
- Attendance of group members in training/ what kinds of issues were discussed?
- What were the achievements/ contributions /major problems/ solutions?

Effectiveness & Impact

- What did you learn from the training conducted by the project? What are the knowledge and skill have you been applying in your personal life/ farm/health care system/ and other relevant activities and which are not applicable?
- Did you transfer some / all of the knowledge and skill you learnt in the training to your family members/ fellow farmers/neighbors/ patients and customers? If yes, to how many?
- Is there any visible change in the VDC and your family health after commencement of the awareness raising on 'negative effect of pesticide'?

Relevance & Sustainability

- Have the activities been relevant, i.e. met the needs of the community?
- Can you continue activities after phasing out of the project without any external support? If no, what support would you need? Who would need to provide that?

3. Check List for Cooperatives

- What is your impression about the FHE project? What are the roles and responsibilities as a member cooperative of the project?
- What were the criteria of selecting the key farmers for training? How effective is the transferring of skills and knowledge to the fellow farmers?
- Are you promoting bio- pesticide for your members/ shareholders of the cooperatives? Are the activities relevant to the target groups?
- Have you organized any awareness programme for your members and share holders?
- What are your cooperative's future plans to raise awareness on safe dealing of pesticide ?

4. Check List for Central Steering Committee and District Advisory Committee

- What in your impression on the FHE project? What is NPHF project supposed to deliver?
- Has the project been able to achieve its objectives as planned ? Have the activities been routinely monitored,
- Are the activities relevant to the target groups? How often do you meet and what are the general agenda of the meetings?
- What are the future plans to raise awareness on safe dealing of pesticide widely and up scaling of the activities?

Annex 4: Documents Reviewed

Documents Reviewed:

- Project Proposal 'Farming Health and Environment Project' 2013- 2015
- Cooperation Agreement Between Dialogos and Nepal Public Health Foundation
- Project Budget for 'Farming Health and Environment Project' 2013- 2015
- Guide to the administration of grants from the project fund June 2012
- CISU project Auditing Instruction Appendix 4
- Annual Report, 2013
- Annual Report, 2014
- 1St Quarterly Status Report April – June 2013
- 2nd Quarterly Status Report
- 3rd Quarterly Status Report
- 4th Quarterly Status Report
- 5th Quarterly Status Report
- 6th Quarterly Status Report
- 7th Quarterly Status Report
- 8th Quarterly Status Report
- 9th Quarterly Status Report
- Proceedings of 1st and 2nd District Conferences
- District Stakeholders and Cooperative Strengthening, Report
- Training Reports of Health Care Workers
- Training Reports of Female Community Health Volunteers
- DAC meeting minutes/Proceeding of DAC training
- List of pesticide for IPM-farming
- District campaign report, photographs. Video documentary E-copy
- Research reports /Internship reports /Research Proposal/ Published articles
- Baseline study report
- IEC materials (posters, Pamphlets, information chart)
- HCW's Guide, Flip chart, Pesticide chart, Pesticide poisoning treatment protocol
- Training Manual of Pesticide Dealer
- Curriculum of Farmer's Field School (FFS)

Website Visited

- Occupational Health Service in Nepal , Dr. Sunil Kumar Joshi and Pranab Dahal , 2009, member.wnso.org/drsunilkj/OHSNepal.pdf
Human Development Report 2014, UNDP Nepal and Government of Nepal
Occupational Safety and Health Studies in
Nepal, www.npc.gov.np/images/download/NHDR_Report_2014.pdf

- Use of pesticides in Nepal and impacts on human health and environment, by D.R. Sharma - 2013 www.nepjol.info/index.php/AEJ/article/view/7590
- Occupational safety and health situation in Nepal, Mr. S.N. Vaidya, Director, Department of Labour and Employment Promotion, Kathmandu, Nepal, [.occupational_health.../Nepal.pdf](#)
- WHO Nepal Country Strategy 2013-2017, www.who.int/countryfocus/cooperation_strategy/ccs_npl_en.pdf
- Labour Act, 1992. Government of Nepal

Nepal Public Health Foundation

- Nepal Public Health Foundation, Brochure
- Nepal Public Health Foundation, Lecture on Public Health in the Past, Present and Future, By Dr. Hemang Dixit, June 30, 2013
- Nepal Public Health Foundation, 10+2 Agenda for Public Health, Kul Chandra Gautam, June, 2010

Annex 5: Persons Met

Name List of People Met During the First Visit of the FHEP Evaluation

Meeting with Central Steering Committee (CSC) Members in Kathmandu

Name	Designation and Organization
1. Mr. Yagya Prasad Giri	Chief Entomologist, NARC
2. Mr. Purushottam Dhakal	Senior Researcher, NHRC
3. Ms. Kesang Renchen	DILYAK Monasteries
4. Dr. Sunil Kumar Joshi	Professor Kathmandu Medical College
5. Mr. Barun Kumar Jha	Department of Labour

September 3, 2015, Rural Fresh Vegetable Producing Cooperative EC, Meeting with Farmers' Field School Participants at Chainpur, Chitwan

Name	Designation and Organization
6. Mr. Prakash Dallakoti	Cooperative Vice President
7. Mr. Devilal Bhusal	Cooperative Secretary
8. Mr. Premnath Nepal	Cooperative Member
9. Ms. Sunita Pokhreal	IPM Farmers Cooperative Member
10. Ms. Uma Nepal	IPM Farmers Cooperative Member
11. Mr. Bhim Bahadur Bhatta	IPM Farmers Cooperative Member
12. Mr. Bhagawati Gharel	IPM Farmers Cooperative Member
13. Ms. Sushma Suyal	IPM Farmers Cooperative Member
14. Mr. Narayan Bogati	Cooperative Member
15. Mr. Kaji Chaudary	Cooperative Member
16. Mr. Yog Raj Panta	Cooperative Member
17. Mr. Laxman Chaudary	Cooperative Member
18. Mr. Krishna Prasad Sapkota	Cooperative Member
19. Mr. Yam Prasad Dallakoti	Cooperative Member
20. Mr. Yuvraj Dallakoti	IPM Farmers Cooperative Member
21. Mr. Tara Prasad Chaudary	Cooperative Office Staff
22. Mr. Mohan Chaudary	Cooperative Office Staff
23. Mr. Arjun Subedi	Proprietor Ramjanki Agrovvet
24. Mr. Khud Lal Nepal	Cooperative Member
25. Mr. Ram Prasad Oli	Cooperative Member
26. Ms. Sharmila Oli	Cooperative Member
27. Mr. Anup Panta	Cooperative Member
28. Mr. Rajkumar Panta	Cooperative Member
29. Mr. Navaraj Oli	Cooperative Member

Sep 4 2015. Bhandra Health Post

Name	Designation and Organization
1. Mr. Nirmal Ghimire	Bhandara Health Post – In charge
2. Mr. Radha Kunwar	Bhandara Health Post – FCHV
3. Mr. Subhadra Chaudary	Bhandara Health Post - FCHV

4. Mr. Kanti Chaudary	Bhandara Health Post - FCHV
5. Ms. Lila Maya Kadel	Bhandara Health Post - FCHV
6. Mr Basanta Chaudary	Bhandara Health Post - FCHV
7. Ms.Saraswati Pathak	Bhandara Health Post - FCHV
8. Ms Jiyani Chaudary.	Bhandara Health Post - FCHV
9. Ms Urmila Oli	Bhandara Health Post - FCHV
10. Ms Shashila Gautam	Bhandara Health Post - FCHV
11. Mr. Ram Chandra Shrestha	Bhandara Health Post – AHV
12. Ms Kalpana Bhandari	Bhandara Health Post – AHV
13. Ms Sabita Bhusal	Bhandara Health Post – LAB Assitant
14. Ms Achita Tamang	Bhandara Health Post – Staff
15. Mr.Agni Prasad Silwal	Bhandara Health Post – Staff
16. Mr. Shanta Pathak	Bhandara Health Post – ANM
17. Ms Bhagwati Shreshta	Bhandara Health Post – Staff

Sep 4 2015, Chainpur Helath Post

Name	Designation and Organization
1. Mr. Bishnu Rijal	Chainpur Helath Post – In charge
2. Ms. Kamala Thapa	Chainpur Helath Post – FCHV
3. Ms. Krishna Kumari Dhungana	Chainpur Helath Post – FCHV
4. Ms. Ishwari Basnet	Chainpur Helath Post – FCHV
5. Ms. Kabita Upreti	Chainpur Helath Post – FCHV
6. Ms. Durga Devi Khadka	Chainpur Helath Post – FCHV
7. Ms. Durga Maya Gurung	Chainpur Helath Post – FCHV
8. Ms. Maya Shreshta	Chainpur Helath Post – FCHV
9. Ms. Punya Prabha Adhikari	Chainpur Helath Post – FCHV
10. Ms. Sumitra Shikhada	Chainpur Helath Post – FCHV
11. Ms. Namuna Thapa	Chainpur Helath Post – FCHV
12. Ms. Anita Magar	Chainpur Helath Post – FCHV
13. Ms. Goma Chaudary	Chainpur Helath Post – Office Staff
14. Ms. Shusmita Thapa	Chainpur Helath Post – Office Staff
15. Ms. Laxmi Aryal	Chainpur Helath Post – Office Staff
16. Ms. Muna Adhikari	Chainpur Helath Post – Office Staff

Place: Cooperative EC and Members of Farmers' Field School Bhandara

Name	Designation and Organization
1. Mr. Chudamani Bartaula	DAC Member
2. Mr. Shukra Raj Chaudari	Cooperative - Member
3. Mr. Hem Prasad Kadel	Cooperative - Member
4. Mr. Khil Kanta Gyawali	Cooperative - President
5. Mr. Phanindra Sedai	Cooperative - Member
6. Mr. Dharma Raj Kadel	IPM - Facilitator
7. Mr. Rameshwar Thapalia	Cooperative - Member
8. Mr. Nabaraj Aryal	Cooperative - Member
9. Mr. Bhawanath Tripathi	Cooperative - Member
10. Mr. Lal Bahadur Shreshta	Cooperative - Member

11. Ms.Parbati Sedai	Cooperative - Member
12. Ms.Parbati Pande	Cooperative - Member
13. Mr. Bishal Koirala	Cooperative - Member
14. Mr. Binay Koirala	Cooperative - Member
15. Mr. Prakash Sedai	Cooperative - Member
16. Mr. Uddash Sapkota	Cooperative - Member
17. Mr. Rana Bahadur Sedai	Cooperative - Member
18. Ms. Debi Thapa	IPM Farmer
19. Mr. Krishna Kumari Upreti	IPM Farmer
20. Mr. Ribraj Pathak	IPM Farmer
21. Mr. Bimal Raj Pathak	IPM Farmer
22. Mr. Deepak Raj Kharel	Cooperative - Member
23. Mr. Man Kumar Chaudary	IPM Farmer - Facilitator

5 sep 2015,IPM Facilitators, Association, Chitwan,

Name	Designation and Organization
1. Ms.Rama Dhungana	President
2. Mr.Prem Nath Nepal	Vice President
3. Mr.Krishna Murari Ghimere	Advisory Committee – Coordinator
4. Mr.Dharma Raj Kadel	Advisor
5. Ms. Uma Dahal	Member
6. Mr. Maan Kumar Chaudari	Advisor
7. Mr.Lokraj Silwal	Treasure
8. Ms Asha Chaudary	Member
9. Ms Laxmi Chaudary	Finance –Member
10. Ms Laxmi Neupane	Member
11. Mr. Tov Raj Bhattarai	Secretary
12. Mr. Leknath Pokhrael	Facilitator
13. Mr. Ram Chandra Bantakoti	Vice – Secretary
14. Mr. Rajkumar Paudel	Advisor
15. Ms. Seema Lama	Member
16. Mr. Miva Nanda Parajuli	Finance & Accountan
17. Mr. Laxmi Basnet	Facilitator

Sep 6, 2015, Sukranagar Health Post

Name	Designation and Organization
1. Mr. Rishiram Baral	HA / SAHW
2. Mr. Rajan Adhikari	AHW
3. Ms. Chandra Kala Bhusal	ANM
4. Ms. Atosa Devi Sapkota	FCHV
5. Ms Muna Subedi	FCHV
6. Ms Sarada Khadka	FCHV
7. Ms Shanta Mahato	FCHV
8. Ms Jenny Chaudary	FCHV
9. Ms Maan Devi Pun	FCHV
10. Ms Khoki Maya Gurung	FCHV

11. Ms Jenny Mahato	FCHV
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District Advisory Committee

Name	Designation and Organization
1. Professor Chandra Kishor Mandal	Chairman District Advisory Committee
2. Mr. Shri Somnath Ghimere	Member-Chief, District Agriculture Development Office
3. Mr. Shri Madhusudan Koirala,	Member -District Public health office
4. Dr. Rajani Shah	Member –NPHF
5. Mr. Bhola Shivakoti	Member –BPK Cancer Hospital
6. Mr. Hari Prasad Neupane,	Member -Nepal Red Cross Society Chitwan
7. Mr. Chudamani Bartaula:	Member – Janjagriti Hariyali Taja Tarkari & Phalpul Utapadak Cooperative
8. Mr. Prakash Bhattarai:	Member – Pesticide Dealer , Sahayogi Agrovet
9. Mr. Premnath Nepal,	Member – Districe IPM , Chitwan
10. Mr. Purna Danta Bhusal, Member	Member – Gramin Hariyali Taja Tarkari & Phalpul Utapadak Cooperative

September 6, 2015,Sukranagar Women's Group (name of the women's group Chhahari Women Group)

Name	Designation and Organization
1. Ms. Ashramiya Mahato	IPM Farmer
2. Mr. Dukhi Ram Mahato	IPM Fellow Farmer
3. Maan Kala Ghimire	IPM Fellow Farmer
4. Mr. Prakash Mani Subedi	IPM Fellow Farmer
5. Mr. Shiva Raj Adhikari	IPM Fellow Farmer
6. Ms. Ashramiya Mahato	IPM Farmer
7. Ms. Sirwarmi Mahato	IPM Fellow Farmer
8. Ms. Ramiya Mahato	IPM Fellow Farmer
9. Ms. Bhikhani Mahato	IPM Fellow Farmer
10. Ms. Ajit Ram Mahato	IPM Fellow Farmer
11. Ms. Maya Mahato	IPM Fellow Farmer
12. Ms. Rakmaya Mahato	IPM Fellow Farmer
13. Ms. Sukra Miya Mahato	IPM Fellow Farmer
14. Ms. Ganga Mahato	IPM Fellow Farmer
15. Ms. SantaKumari	IPM Fellow Farmer
16. Ms. Kisuni	IPM Fellow Farmer
17. Ms. Chal Kumari Chaudary	IPM Fellow Farmer
18. Ms. Maya Mahato	IPM Fellow Farmer
19. Ms. Janaki Mahato	IPM Fellow Farmer
20. Ms. Hathani Mahato	IPM Fellow Farmer
21. Ms. Sunita Mahato	IPM Fellow Farmer
22. Ms. Santa Kumari Mahato	IPM Fellow Farmer
23. Ms. Mamta Mahato	IPM Fellow Farmer

24. Ms. Rakmaya Mahato	IPM Fellow Farmer
25. Ms. Sikha Ram Chaudary	IPM Fellow Farmer
26. Ms. Indra Kumari Mahato	IPM Fellow Farmer
27. Ms. Budh Kumari Mahato	IPM Fellow Farmer
28. Ms. Sushila Mahato	IPM Fellow Farmer
29. Ms. Dil Kumari Mahato	IPM Fellow Farmer
30. Ms. Bal Kumari Mahato	IPM Fellow Farmer
31. Ms. Ram Chandra Paudel	IPM Fellow Farmer
32. Ms. Hari Prasad Bote	IPM Fellow Farmer
33. Ms. Sauni Mahto	IPM Fellow Farmer
34. Mr. Ram Chandra Bot	IPM Fellow Farmer
35. Ms. Rajitam Chaudary	IPM Fellow Farmer
36. Mr. Raju Shreshta	IPM Fellow Farmer
37. Mr. Ashok Sharma	IPM Fellow Farmer
38. Ms. Rita Javar Kattel	Sanakisan Cooperative – Members
39. Ms. Krishna Devi Neupane	Sanakisan Cooperative – Members
40. Mr. Hari Krishna Mahato	Sanakisan Cooperative – Members
41. Mr. Bikram Chaudary	Sanakisan Cooperative – Members
42. Mina Mahato	Sanakisan Cooperative – Members
43. Uma Subedi	Sanakisan Cooperative – Members

September 7, 2015, Jagatpur Health Post

Name	Designation and Organization
1. Mr. Navaraj Adikari, Health post chief	HA / SAHW
2. Mr. Navaraj Paudel	HA
3. Mr. Harish Chandra Neupane	HA
4. Mr. Ram B.K	HA
5. Ms. Shri Bimala Kunwar	ANM
6. Ms. Shri Prabisa Adhikari, Staff Nurse	Staff Nurse (SN)
7. Ms. Tulasi Devi Chalise	FCHV
8. Ms. Bishnu Adhikari	FCHV
9. Ms. Goma Ghimire	FCHV
10. Ms. Rukmini B.K	FCHV
11. Ms. Radha Dhungana	FCHV
12. Ms. Renu Shreshta	FCHV
13. Ms. Rukmaya Moktan	FCHV
14. Ms. Shova Bhujel	FCHV
15. Ms. Bhagirathi B.K	FCHV
16. Mr. Parbati Devkota	Office Staff
17. Mr. Rama Paudel	Office Staff

September 7, 2015, Kerung Fresh Vegetable and Fruit Producing Cooperative Organization Sukranagar

Name	Designation and Organization
1. Mr. Kancha Malla, Chairman	Kerunga Cooperative - President

2. Mr.Narayan Prasad Regmi	Kerunga Cooperative - Members
Mr.Sumane Sunar	Kerunga Cooperative - Members
3. Mr.Arjun Bhujel	Kerunga Cooperative - Members
4. Mr.Gyanuka Sapkota	Kerunga Cooperative - Members
5. Ms. Rita Jamakatel	IPM Farmer
6. Mr.Baburam K.C	IPM Farmer
7. Ms.Ishwari Neupane	IPM Farmer
8. Durga Prasad Sapkota	IPM Farmer
9. Mr. Man Kumar Hamal	IPM Farmer
10. Mr.Mohan Raj Malla	IPM Farmer
11. Mr.Tika Kumari Muktan	IPM Farmer
12. Ms.Chandra Wati Malla	IPM Farmer
13. Ms.Sita Puri	IPM Farmer
14. Ms.Maya Puri	IPM Farmer
15. Ms.Srijana Puri	IPM Farmer
16. Ms. Suntali Thakuri	IPM Farmer
17. Mr.Arjun Karki	IPM Farmer

September 8, 2015, Farmer's Field School Participants at Mangalpur

Name	Designation and Organization
1. Mr.Rama Dhungana	District IPM Chitwan - President
2. Mr.Ram Chandra Bastakoti	IPM Facilitator
3. Mr.Krishna Prasad Paudel	IPM Farmer
4. Mr.Saroj Subedi	IPM Farmer
5. Ms.Ruku Bolakhe	IPM Farmer
6. Ms.Krisa Paudel	IPM Farmer
7. Ms.Usha Paudel	IPM Farmer
8. Ms.Ranju Pandit	IPM Farmer
9. Ms.Radha Paudel	IPM Farmer
10. Ms.Sarita Adhikari	IPM Farmer
11. Ms.Goma Gurung	IPM Farmer
12. Ms.Sapna Baniya	IPM Farmer
13. Ms.Tirtha Maya	IPM Farmer
14. Mr.Resham Lal Paudel	IPM Farmer
15. Mr.Indra Lal Kadel	IPM Farmer
16. Mr.Bal Krishna Paudel	IPM Farmer
17. Mr.Ganesh Bahadur Thapa	IPM Farmer
18. Mr.Radha Krishna K.C	IPM Farmer
19. Mr.Narhari Prasad Kadel	IPM Farmer
20. Mr.Harka Bahadur B.K	IPM Farmer
21. Ms.Menuka Hamal	IPM Farmer
22. Ms.Mohan Lal Neupane	IPM Farmer
23. Juddha Bahadur Khatri	IPM Farmer

September 8,2015, Mangalpur Health Post

Name	Designation and Organization
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1. Ms. Ishwara Tiwari	HA / SAHW
2. Ms.Sumeera Dhakal	HA / SAHW
3. Ms.Menuka Basnet	ANM
4. Ms. Mina Tiwari	ANM
5. Ms.Devi Gurung	AHW
6. Ms. Bimala Sharma	HA / SAHW
7. Mr. Hima Adhikari	Office Staff
8. Ms. Sita Acharya	FCHV
9. Ms.Gomadevi Paudel	FCHV
10. Ms.Radha Paudel	FCHV
11. Ms.Lila Paudel	FCHV
12. Ms. Tulmaya Gurung	FCHV
13. Ms. Saraswati Rawal	FCHV
14. Ms.Maiti Kumari Tamang	FCHV
15. Ms.Sabitri Devkota	FCHV
16. Ms.Tika Devi Pokhreal	FCHV

September 8, 2015, Meeting at Gyaneshor Fresh Vegetables and Fruits Production Cooperative, Mangalpur

Name	Designation and Organization
1. Mr.Juddha Bahadur Khatri	Cooperative - Member
2. Mr.Chunna Prasad Gautam	Cooperative - Member
3. Mr.Harka Bahadur B.K	Cooperative - Member
4. Mr.Navaraj Bolakhe	Cooperative - Member
5. Ms.Shamsher Prasad Pande	Cooperative - Member
6. Mr.Shiva Lal Paudel	Cooperative - Member
7. Ms.Deepa Pudasaini	Cooperative - Member
8. Mr.Rukum Prasad Neupane	Cooperative - Member
9. Ms.Methu Thapa	Cooperative - Member
10. Mr.Ganesh Bahadur Thapa	Cooperative - Member
11. Ms.Rama Dhungana	IPM Facilitator
12. Ms.Menuka Gautam	Cooperative - Member
13. Mr.Ram Chandra Bastakoti	IPM Facilitator
14. Ms.Meen Khadka	Cooperative - Member
15. Mr.Hari Bahadur Thapa	Cooperative - President
16. Mr.Kabin Dhitalu	Cooperative - Member
17. Ms.Bishnu B. Baniya	Cooperative - Member
18. Mr.Binod Bogati	Cooperative - Member

Meeting with Project staff, September 9, 2015

Name	Designation and Organization
1.Dr, Abhinav Baidhya	Project Coordinator
2.Mr.Deepak Gyanwali	Field Coordinator
3.Mr.Sundar Tiwari	Agronomist
4.Mr.Khilendra Chaudary	Administration Assistant / Finance / Accountant

5.Mr.Bom Bahadur Thapa	Driver
6.Mr.Basudev Sapkota	Field Assistant
7.Ms.Bimala Waiba	Messenger / Office Helper

October 1, 2015, List of Participants During Debriefing in Kathmandu

S N Name	Designation Organization
1. Dr. Abhinav Vaidya	Project Coordinator ,Nepal Public Health Foundation
2. Dr. Annie Oehlerich	Anthropologist, Dialogos
3. Mr. Babu Raja Bohra	CSC member Nepal Red Cross Society
4. Dr. Badri Raj Pande	Acting Executive Chair Nepal Public Health Foundation
5. Ms. Binjwala Shrestha	Executive Board Member, Nepal Public Health Foundation
6. Dr. Birgette Zwicky – Hauschild,	MD Dialogos
7. Dr. ChhatraAmatya	Executive Board Member, Nepal Public Health Foundation
8. Mr. Deepak Gyenwali	Assistant Project Coordinator, Nepal Public Health Foundation
9. Ms. HomaThakali Internal -	Evaluator
10. Ms. Keshang Renchen -	Consultant, CSC member
11. Dr. SharadOnta	General Secretary, Nepal Public Health Foundation
12. Mr. SundarTiwari	Agronomist, Nepal Public Health Foundation
13. Dr. Sunil K. Joshi	Professor & Head (Department of Kathmandu Medical College, Community Medicine)/CSC .member
14. Dr. Tirtha Rana Treasurer,	NPHF, Nepal Public Health Foundation

Name List of People Met During the Second Visit of the FHEP Evaluation Meeting with IPM farmers, Cooperative Executive Committee and Agro- Vet dealers, Chainpur, 22 September 2015

Name	Designation
1. Mr.Prem Nath Nepal	IPM Facilitator
2. Ms.Bhagwati Gharel	Cooperative, Chairperson
3. Mr.Jagat May Basnet	Farmer
4. Mr.Yasoda Kumari Paudel	Cooperative, Member
5. Ms.Durga Maya Gurung	Farmer
6. Mr.Laxman Chaudhary	Cooperative, Member
7. Mr.Jay Bahadur Khadka	Farmer
8. Mr.Yubraj Dallakoti	Cooperative, Member
9. Ms.Sunita Pokhrel	Cooperative, Member
10. Mr.Susma Chantal	Farmer

11. Mr.Mohan Chaudhary	Cooperative, Member
12. Mr.Sadhu Ram Basnet	Farmer
13. Mr.Tara P. Chaudhary	Cooperative, Manager
14. Mr.Yog Raj Pant	Farmer

Meeting with HCW and FCHVs and Bhandara Health post: 23 Sept. 2015

Name	Designation
1. Mr.Nirmal Ghimire	Head of Bhandara Health post
2. Mr.Shanta Pathak	Sr. Auxiliary Nurse Midwife
3. Ms.Bhagwati Shrestha	Auxiliary Nurse Midwife
4. Mr.Ram Chandra Shrestha	Auxiliary Nurse Midwife
5. Ms.Kalpana Bhandari	Assistant Health Worker
6. Ms.Nirmaya Praja	Auxiliary Nurse Midwife
7. Mr.Panna B. Ranjitkar	Assistant Health Worker
8. Mr.Rajendra P. Silwal	Staff
9. Mr.Agni P. Silwal	Staff
10. Ms.Achita Tamang	Staff
11. Ms Kanti Chaudhary	FCHV
12. Ms Lila Maya Kadel	FCHV
13. Ms Suvadra Chaudhary	FCHV
14. Ms Jiyani Chaudhary	FCHV
15. Ms Radha Kunwar	FCHV
16. Ms Sasila Gautam	FCHV
17. Ms Saraswati Pathak	FCHV

September 24, 2015, Sukranagar Women's Group (Chhahari Women's Group)

Name	Designation and Organization
1. Ms. Ashramiya Mahato	IPM Farmer
2. Mr. Dukhi Ram Mahato	IPM Fellow Farmer
3. Maan Kala Ghimire	IPM Fellow Farmer
4. Mr. Prakash Mani Subedi	IPM Fellow Farmer
5. Mr. Shiva Raj Adhikari	IPM Fellow Farmer
6. Ms. Ashramiya Mahato	IPM Farmer
7. Ms. Sirwami Mahato	IPM Fellow Farmer
8. Ms. Ramiya Mahato	IPM Fellow Farmer
9. Ms. Bhikhani Mahato	IPM Fellow Farmer
10. Ms. Ajit Ram Mahato	IPM Fellow Farmer
11. Ms. Maya Mahato	IPM Fellow Farmer
12. Ms. Rakmaya Mahato	IPM Fellow Farmer
13. Ms. Sukra Miya Mahato	IPM Fellow Farmer
14. Ms. Ganga Mahato	IPM Fellow Farmer
15. Ms. Santa Kumari	IPM Fellow Farmer
16. Ms. Kisuni	IPM Fellow Farmer

17. Ms. Chal Kumari Chaudary	IPM Fellow Farmer
18. Ms. Maya Mahato	IPM Fellow Farmer
19. Ms. Janaki Mahato	IPM Fellow Farmer
20. Ms. Hathani Mahato	IPM Fellow Farmer
21. Ms. Sunita Mahato	IPM Fellow Farmer
22. Ms. Santa Kumari Mahato	IPM Fellow Farmer
23. Ms. Mamta Mahato	IPM Fellow Farmer
24. Ms. Rakmaya Mahato	IPM Fellow Farmer
25. Ms. Sikha Ram Chaudary	IPM Fellow Farmer
26. Ms. Indra Kumari Mahato	IPM Fellow Farmer
27. Ms. Budh Kumari Mahato	IPM Fellow Farmer
28. Ms. Sushila Mahato	IPM Fellow Farmer
29. Ms. Dil Kumari Mahato	IPM Fellow Farmer
30. Ms. Bal Kumari Mahato	IPM Fellow Farmer
31. Ms. Ram Chandra Paudel	IPM Fellow Farmer
32. Ms. Hari Prasad Bote	IPM Fellow Farmer
33. Ms. Sauni Mahto	IPM Fellow Farmer
34. Mr. Ram Chandra Bot	IPM Fellow Farmer
35. Ms. Rajitam Chaudary	IPM Fellow Farmer
36. Mr. Raju Shreshta	IPM Fellow Farmer
37. Mr. Ashok Sharma	IPM Fellow Farmer
38. Krishna Murari Ghimire	IPM Facilitator

Kerunga Taja fresh Vegetable and Fruit Cooperative, Jagatpur, Executive Committee, 24 September 2015, Jagatpur

Name	Designation
1. Ms. Rita Jamarkattel	
2. Mr. Shyam Bahadur	Cooperative, Member
3. Mr. Kancha Malla	Cooperative, President
4. Mr. Narayan P. Regmi	Cooperative, Kerunga Speaker
5. Mr. Suman Bdr. Sunar	Cooperative, Member
6. Mr. Durga Prasad Sapkota	Farmer
7. Mr. Pashupati Thakuri	Farmer
8. Mr. Jay Bahadur Khadka	Farmer
9. Mr. Arjun Karki	Farmer

Mangalpur Farmers organized Farmer School Participants, 25 September 2015

Name	Office
1. Ms. Ruku Bolakhe	IPM Farmer
2. Ms. Usha Paudel	IPM Farmer
3. Mr. Keshav Gautam	IPM Farmer
4. Mr. Saroj Subedi	IPM Farmer
5. Ms. Maya Devi Kadel	IPM Farmer
6. Ms. Sweta Adhikari	IPM Farmer

7. Mr.Harka Bdr. BK	IPM Farmer
8. Ms Menuka Hamal	IPM Farmer
9. Mr.Radhakrishna KC	IPM Farmer
10. Mr.Krishna Prasad Paudel	IPM Farmer
11. Mr.Ram Chandra Bastakoti	IPM Farmer
12. Mr.Sundar Tiwari	IPM Farmer
13. Mr.Sapna Baniya	IPM Farmer
14. Mr.Bhaktaraj Hamal	IPM Farmer
15. Mr.Devi Chandra	IPM Farmer
16. Ms Sushmita Hamal	Student
17. Mr.Bishnu Hari Sharma	IPM Farmer/student
18. Ms Priya Poudel	IPM Farmer
19. Mr.Resham Lal Poudel	IPM Farmer
20. Ms. Rama Dhungana	IPM Farmer
21. Mr.Mohan Lal Neupane	IPM Farmer

Meeting with Target Groups, 25 September 2015

Name	Designation
1.Mr.Deepak Gyenwali	NPHF/FHEN,Field Coordinator
2.Mr. Khilendra Raj Chaudhary	FHEN A/S.
3.Mr.Abhinav Vaidya	NPHF/FHENProject Coordinator
4.Ms.Iswara Kumari Tiwari	Mangalpur Health Post In- charge
5.Mr.Rishi Ram Baral	Jagatpur Health Post, Assistant Health Worker
6.Ms.Nirmal Ghimire	Bhandara Health Post In- charge
7.Mr.Bishnu Rijal	Chainpur Health Post In- charge
8.Mr. Nama Raj. Adhikari	Jagatpur HealthPost, Health Assistant
9.Ms. Hira Mani Bhusal	Kharmoni HealthPost,
10.Mr. Suresh Ghimire	Dibyanagar, Junior Technical Assistant
11.Ms. Durga Pd. Ghmire	Agro vet
12.Mr.Hari Pd. Bartaula	Agro vet
13.Ms. Subhadra Chaudhary	FCHV
14. Ms. Durga Maya Gurung	FCHV
15. Ms. Lila Devi Paudel	FCHV
16. Ms. Radha Dhungana	FCHV
17. Ms. Atsosa Devi Sapkota	FCHV
18. Mr.Khil Kanta Gyawali	Bhandara, Cooperative President
19. Mr. Hari Bahadur Thapa	Cooperative Representative
20..Mr. Jharak Gautam	Cooperative Representative
21..Mr. Laxman Chaudhary	Cooperative Representative
22. Mr.Chudamani Basnet	IPM Farmer
23. Mr.Bhagabati Dharel	IPM Farmer
24. Mr.Asramiya Chaudhary	IPM Farmer

25. Mr.Bhagwati Dharel	IPM Farmer
26. Mr.Krishna Prasad Poudel	IPM Facilitaor
27. Ms.Rama Dhungana	IPM Facilitaor
28. Mr.Dharma Raj Khanal	IPM Facilitaor
29. Mr.Peram Nat Nepal	IPM Facilitaor
30. Mr.Krishna Murari Ghimire	IPM Facilitaor
32. Mr.Ram Chandra Bastakoti	IPM Facilitaor
33. Mr.Rukum Prasad Neupane	Cooperative Representative
34. Mr.Basudev Sapkota	Field Assistant

Meeting with Project staff, September 26, 2015

Name	Designation and Organization
1. Dr, Abhinav Baidhya	Project Coordinator
2. Mr. Deepak Gyanwali	Field Coordinator
3. Mr. Sundar Tiwari	Agronomist
4. Mr. Khilendra Chaudary	Administration Assistant / Finance / Accountant
5. Mr. Bom Bahadur Thapa	Driver
6. Mr. Basudev Sapkota	Field Assistant

Debriefing in Kathmandu, October 1, 2015

S N Name	Designation Organization
1. Dr. Abhinav Vaidya	Project Coordinator (FHEN) Nepal Public Health Foundation
2. Dr. Annie Oehlerich	Anthropologist Dialogos
3. Mr. Babu Raja Bohra	CSC member Nepal Red Cross Society
4. Dr. Badri Raj Pande	Acting Executive Chair Nepal Public Health Foundation
5. Ms. Binjwala Shrestha	Executive Board Member Nepal Public Health Foundation
6. Dr. Birgette Zwicky – Hauschild	MD Dialogos
7. Dr. Chhatra Amatya	Executive Board Member Nepal Public Health Foundation
8. Mr. Deepak Gyanwali	Assistant Project Coordinator Nepal Public Health Foundation
9. Ms. Homa Thakali	Evaluator, Independent Consultant
10. Ms. Keshang Renchen	CSC member, Independent Consultant
11. Dr. Sharad Onta	General Secretary Nepal Public Health Foundation
12. Mr. Sundar Tiwari	Agronomist Nepal Public Health Foundation
13. Dr. Sunil K. Joshi	Professor & Head (Department of Community Medicine)/CSC member
14. Dr. Tirtha Rana Treasurer	NPHF Nepal Public Health Foundation

Annex 6: List of IEC Material

	<ol style="list-style-type: none"> 1. Symptoms and effects of pesticide exposure 2. Color code of pesticide toxicity 3. Safe use of pesticides <p>Information chart:</p> <ol style="list-style-type: none"> 1. Diagnosis and management of Pesticide poisoning cases <p>Treatment protocol:</p> <ol style="list-style-type: none"> 1. Management of pesticide poisoning. <p>Book:</p> <ol style="list-style-type: none"> 1. Health workers' Guide: prevention, Diagnosis and Treatment of Pesticide poisoning. <p>Training Manual/flip chart:</p> <ol style="list-style-type: none"> 1. Prevention, identification and first aid of pesticide poisoning cases: training booklet for female Community Health Volunteers (Nepali) 	<p>posts, cooperative's building to increasing the awareness on symptoms of pesticide poisoning, degree of toxicity of pesticides, preventive measures.</p> <p>Targeted to HCWs- used in training. Displayed at OPD in Health posts. Like a job aid to diagnosis and manage pesticide poisoning.</p> <p>Used in FCHV's training. Also useful for teaching farmers in villages. (Job aid for FCHV)</p>
Total Number of IEC 22		
Vidi0 total 2, one completed and one ongoing	<ol style="list-style-type: none"> 1. Misuse of pesticide. 	Increasing awareness on misuse and hazards of pesticides.
Radio 9	Bishadi, batawaran ra swasthya-episode 1-11	Increasing mass awareness on pesticides, it's hazards, preventive practices etc.

Annex 7: Research Activities

Research Title	Status
Pesticide Exposure During Pregnancy And The Pregnancy Outcome In Chitwan District Of Nepal Sudip Ale Magar, MPH thesis Institute of Medicine, Maharajgunj Medical Campus	August-December, 2014 Report received
Broadsheet coverage of pesticides and health issues in Nepal: a content analysis Deepak Gyanwali, FHEN	Content analysis of news paper articles Analysis ongoing
Epidemiological study on pesticide poisoning cases in Chitwan Deepak Gyanwali, FHEN	Data collection ongoing
Eco-friendly management of diamondback moth (<i>plutellaxylostella</i> l.) in cabbage (<i>brassica oleraceavarcapitata</i> l.) using bio-pesticides under field conditions in Chitwan, Nepal. Ananta Mani Bhattarai, MSc Ag Thesis Agriculture and Forestry University	FHEN funded Report due: October end
Effect Of Chemical Pesticides On Rapeseed Production, Its Pest, Natural Enemies And Pollinators In Chitwan, Nepal Milan Gaire , MSc Ag Thesis Agriculture and Forestry University	FHEN funded Report due: October end
Survey, Monitoring And Integrated Management Of Cabbage Aphid (<i>Brevicoryne Brassicae Linnaeus</i>) In Chitwan, Nepal Sushil Neupane, MSc. Ag. Thesis Agriculture and Forestry University	FHEN funded Report due: October end
Bio-efficacy testing of commercially available chemical pesticides against <i>peris brassicae nepalensis</i> on cabbage in Chitwan, Nepal. Bhola Gautam, MSc. Ag. Thesis Agriculture and Forestry University	FHEN funded Report due: October end

Study on farmers practice to produce safe vegetables : from perspectives of pesticide use in chitwan district Janak Thapa, NPHF	FHEN funded Ongoing
The Obstacles To Adopt To IPM And The Impacts On Farmers' Health In Chitwan District Of Nepal Maria Palianopoulou, MPH thesis University of southern Denmark Campus Esbjerg	February- May, 2014 Report waiting
Self-reported symptoms of acute pesticide poisoning and plasma cholinesterase levels among agricultural workers in Nepal: A randomized, double-blind, placebo-controlled, crossover study Dea Haagensen Kofod, MD thesis University of Copenhagen	August- November, 2014 Report waiting
Prevention of commercial vegetable farmers' exposure to pesticides with existing personal protective equipment in Chitwan district of Nepal Anshu Varma Copenhagen University Hospital/International Center for Occupational, Environmental and Public Health	May 2014- May 2015 Report waiting
Project in practice– in collaboration with Dialogos Anders Reppien Christensen, Agronomy course University of Copenhagen	February- April, 2015 Report received

Annex 8: Median Publications Conference Papers

Publications

S.N.	Title of Article and Author	Newspaper
1.	<i>Chitwan ma bisadiko prayog ra bisadi nyunikaran ka rananiti</i> (Status of pesticide use in Chitwan and strategies to reduce the use of pesticide), Sundar Tiwari,	Chitwan Post Daily
2.	Importance of IPM in reduction of use of chemical pesticide, Sundar Tiwari	Pardeshi Daily
3.	<i>Watawaran tatha manav Swasthyama bisadiko prayog</i> (Negative effects of chemical pesticides in environment and Human health), Sundar Tiwari,	Chitwan Post Daily
4.	<i>Bisadiko jokhimka chetrahuru ra apnaunuparne upayaharu</i> (Risk of chemical pesticide and preventive measures), Sundar Tiwari	Chitwan Post Daily
5.	<i>Ekikrit satrujib byawasthapandwuara bisadi nyunikaran</i> (Reduction of chemical pesticide use through IPM method), Sundar Tiwari	Chitwan post daily
6.	<i>Bisadiko awastha ra sambandhit nikayale khelnuparne bhumika</i> (Situation of pesticide use and role of stakeholders), Sundar Tiwari	Chitwan Post Daily
7.	<i>Nepalma bisadiko jokhimka chetrahuru ra yasbata surachit hune upayaharu</i> (Risk of chemical pesticide and preventive measures), Sundar Tiwari	Samar Pratik, agricultural magazine
8.	<i>Bisadiko Bikalpama IPM wa Prangarik kheti</i> (IPM or Organic farming: Alternative to chemical pesticides), Sundar Tiwari	Silver Jubilee Souvenir of Farmers Cooperative Chitwan
9.	Prangarik kheti ra Jaibik Bisadi (IPM farming and bio-pesticides), Sundar Tiwari	Prakarti Prawaha, trimester agricultural magazine.
10.	<i>Bisadi prayog ra krishakko swasthya</i> (Use of chemical pesticides and health of farmers), Deepak Gyanwali	Agricultural magazine published by District IPM farmers' association.
11.	<i>IPM tarika ra Krishak tatha bishadi bishetale bishadi charda dhyan dinuparne mahatwopurna kurahau</i> (IPM method and cautions to be taken during using chemical pesticides, Sundar Tiwari	Agricultural magazine published by District IPM farmers' association.