

**External Evaluation Report**  
**Organising for Sustainable Agricultural Practices**  
**Kavre, Nepal**



**Submitted to:**

**Trianglen Denmark and ASK Nepal**  
**Copenhagen, Denmark and Syangja Nepal**

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## ACRONYMS

|        |   |
|--------|---|
| ASC    | Agricultural Service Centre   |
| ADS    | Agriculture Development Strategy  |
| ASK    | AapashiSahayog Kendra   |
| CISU   | Civil Society in Development - An Association of Danish CSOs Working in Development |
| CV     | Curriculum Vitae  |
| DADO   | District Agriculture Development Office   |
| DPAC   | District Project Advisory Committee   |
| DAP    | Di -ammonium Phosphate  |
| FFS    | Farmers' Field School   |
| FG     | Farmers group   |
| FYM    | Farm yard manure  |
| GPS    | Geographical Positioning System   |
| HH     | Household   |
| HQ     | Head Quarter  |
| IGA    | Income Generating Activities  |
| IPM    | Integrated Pest Management  |
| MOP    | Muriate of Potash   |
| (I)NGO | (International) Non-Government Organization   |
| NRM    | Natural Resource Management   |
| Kg     | Kilogram  |
| Ltd.   | Limited   |
| NOFN   | Nagarkot Organic Farmer Network   |
| OSAP   | Organising for sustainable agricultural practices                                   |
| PSC    | Project Steering Committee  |
| Rs     | Rupees  |
| TOR    | Terms of Reference  |
| VDC    | Village Development Committee   |

## Executive Summary

A three years project, Organising Sustainable Agriculture Practices (OSAP), began in October 2015 covering four villages in Baluwapati Deupur VDC, Kavre District with support from **Civil Society in Development (CISU)** of Denmark. Based on preliminary findings of the mid-term review the Project Steering Committee (PSC) recommended a one year no cost project extension in October 2017. Upon CISU's approval on no-cost extension, the project extended till September 2019.

Baluwapati Deupur VDC which merged together with other VDCs and became part of Mandandepur Municipality has agriculture based economy. This area is considered as pocket area for growing – potato, tomato, cauliflower, and cabbage. Farmers of this area generally used excessive amount of synthetic fertilizers and pesticides.

The project with aim to practice and advocate sustainable agriculture has three immediate objectives (IOs) to achieve. The three IOs: 1) Agriculture groups in four selected villages in Baluwapati Deupur VDC organized and develop intensive and sustainable agricultural production for self-consumption and sale, 2) Ecological cooperative in Baluwapati Deupur VDC produce and sell production of vegetables based on organic and climate resilient methods with a profit, and 3) Extended advocacy on local food production based on climate resilient, organic production methods enhancing sustainable use of land resources and reducing poverty through income from intensive small scale agriculture. Each IO was supported by a couple of outputs. .

The aim of the external project end evaluation is to prepare a comprehensive analytical report about project's actual achievements, failure, learning and perspectives for a possible replication of similar project in nearby villages. The evaluation, in broader framework of development objective and immediate objectives, focused on five criteria: **relevance, effectiveness, efficiency, impact, sustainability, and participation**. The evaluation team reviewed various documents such as policies, acts, and program documents, project progress and financial reports, interacted with farmer right in their farms, interacted with project staffs, cooperative staff, hoteliers, and local elected politicians.

The project is found **relevant** for farmers which they demonstrated by actual adoption of organic vegetable production methods. The project objective to promote practicing organic agricultural methods is in conformity with the strategies, policies and programs of all three layers of government. The federal government's strategies, policies, and program highlights to minimize use of synthetic fertilizers and pesticides and promotion of increasing soil organic matter and organic fertilizers. The provincial government intends gradual development of entire province as synthetic fertilizers and pesticides free province and would begin with declaration of organic agriculture area where possible. The Mandandepur municipality has already begun supporting farmers of ward 1 and 2 for practicing organic agriculture.

The project largely achieved designed quantitative targets and even exceeded in some instances. Originally, it intended working with 100 farmers of 4 four villages and ultimately reached to 225 farmers of 9 villages. Mobilization of cooperative in marketing part was not at expected level.

The organic vegetable growers initiated building and improving healthy soil by substituting synthetic fertilizer by farmyard manure, compost, and animal urine. Substitutions of synthetic pesticides by homemade organic pesticides have contributed reducing pollution in soil, water, and air. Some farmers have initiated growing local seeds of selected vegetables, though not enough to satisfy farmers' total demand. The vegetable species diversity in farmers' field increased nearly 5 folds (from 10 to 48). Further biodiversity increment noted in Agro-forestry plots where farmers introduced timber trees, fruit trees, and some herbs such as cardamom. Approximately, 75 % practicing farmers supplemented their diet by organic vegetables and 27 % sold surplus vegetables and earned cash. The project performances were **effective** at satisfactory level based on in its achievements in terms of vegetable production, consumption, and sale.

The project is found **efficient** in terms of fund disbursement and maintaining expenses within limits of each budget line, however, it is not so efficient in term maintaining time. The project took 33 % extra time to achieve expected results.

Concepts, methods and practical skills of preparation as well as application of agriculture inputs that lead to organic agriculture have been found increased among the participating farmers. The project **impacted** on changing mindset, health, local economy, and leadership development. Both producer (farmers) and consumer (hoteliers) mind set steadily tilted towards organic vegetables even when they had to bear extra efforts and cost. Added organic vegetables as dietary supplements are expected impacting positive on human health. Substitution of synthetic fertilizer and pesticide by organic fertilizer and pesticides contributed reducing farmers' health hazard, improving soil health, reduce air pollution, and water pollution. Substitution of synthetic fertilizer and pesticides by homemade organic fertilizer and pesticides contributed reducing cash drain out. The income through sale of vegetables added cash flow in the villages. The saving and credit funds managed by farmers' groups as well as cooperative contributed better access to funds when needed. Training, exposure visit, monthly meetings collectively contributed building confidences and leadership skill.

With some exceptions, most farmers applied learning of training in action. In many cases number of farmers practicing organic agriculture methods exceeded subsidy recipients. FFS, practical skills of the practicing farmers particularly leader farmers, and knowledge of locally hired project staff is likely to work as firm foundation for transfer of organic farming technologies. DADO, ASC, and municipality are likely to continue supporting farmers through farmers' groups and their networks. The linkages of farmer groups and groups network with

DADO, ASC, and municipality will definitely continue and likely to have better bonding. Above mentioned facts lead towards **sustaining** activities, effects, and results in future as well.

The **participation** measured in terms of reach, stakeholder engagement in strategy development and decision making, and confidence on local institution. The project VDC dominantly inhabited by janajati (65%), followed by brahmin-chhetry (32%), and dalit (3%). In terms of reach, Janajati recipients were proportionately higher compared to their population proportion. Women population constituted more than 51 percent of total, their representation, in training and exposure visit, was much less (36 %) than their population proportion.

The project staff as service provider and farmers as service recipients were two primary stakeholders. The key strategies and decisions were taken on village selection, farmer selection and group formation, leader farmer selection, vegetable species selection, seed selection, and recipient selection for subsidies. The villages were selected by project staff in consultation with VDC authority. The farmers were adequately engaged in rest of the processes which were led by project staff.

Project design has adequately conferred **confidence** on local institution particularly ASK Nepal, farmers' groups, and cooperative.

A few lessons requiring attention as reminder for future project design and execution include careful selection of technical terminologies; revisiting project target, beneficiaries, cost, and time at time of inception and revision if necessary; developing result based monitoring database system; and geographical tagging of sites for change monitoring.



## 1. Background

The project for “Organising for Sustainable Agricultural Practices” (OSAP) was launched in Baluwapati Deupur Village Development Committee (Now Mandandeupur Municipality ward 1 and 2) in Kavre district in October 2015 with funding support from Civil Society in Development (CISU) Denmark. It was an initiation of a Danish NGO Trianglen in partnership with a Nepalese NGO ASK-Nepal, Syangja. ASK as an implementing partner was responsible for overall management of project which included program management, fund management, and reporting. ASK had established a branch office in Nagarkot for field level intervention, liaising with local stakeholders, technical services, fund disbursement, progress monitoring, and record keeping. The field office has been managed by Kavre branch manager Mr. Badri Maka. The project originally designed to complete in September 2018 was later extended for one year in no-cost extension modality.

The project guided by a development objective was supported by three immediate objectives and several outputs. They have been presented in Table 1.

Table 1: Matrix of development objective, immediate objectives and outputs

|  |  |  |
|--|--|--|
| <p><b>Development objective: Eco-coop and sustainable agriculture groups in 4 villages in BaluwapatiDeupur VDC, Naldum, Kavre District practice and advocate for climate resilient ecological and sustainable agricultural methods in networks with likeminded organisations in Nepal.</b></p> |  |  |
| <p><b>IMMEDIATE OBJECTIVES</b></p>   |  |  |
| <p><b>Immediate Objective 1:</b><br/>Agriculture groups in 4 selected villages in in Baluwapati Deupur VDC organized and develop intensive and sustainable agricultural production for self-consumption and sale.</p>  | <p><b>Immediate Objective 2:</b> Ecological cooperative in Balawapati Deupur VDC produce and sell production of vegetables based on organic and climate resilient methods with a profit.</p> | <p><b>Immediate Objective 3:</b><br/>Extended advocacy on local food production based on climate resilient, organic production methods enhancing sustainable use of land resources and reducing poverty through income from intensive small scale agriculture.</p> |
| <p><b>KEY OUTPUTS</b></p>  |  |  |
| <p><input type="checkbox"/> 4 agriculture groups with 100 members established with democratic rules and by-laws by February 2016.</p> <p><input type="checkbox"/> 100 group members trained in principles and</p>  | <p><input type="checkbox"/> Ecological Coop established with FFS in 4 villages by June 2016</p>  | <p><input type="checkbox"/> Coop and 4 agriculture groups affiliated with likeminded networks and organizations outside Bulawati Deupur VDC.</p>   |

|  |   |   |
|--|---|---|
| <p>methods for sustainable organic agricultural production by end of 2017.</p> | <ul style="list-style-type: none"> <li><input type="checkbox"/> Agricultural input system in place and endorsed by farmers by end of 2016</li> <li><input type="checkbox"/> Sharing and learning system in place and endorsed by farmers by March 2016</li> <li><input type="checkbox"/> Medium to long term sales contracts (MoUs) with hotels, restaurants and others entered into during 2016.</li> <li><input type="checkbox"/> Standards developed by August 2016 on compliance with production principles, quality, supply and delivery, and price et cetera (Coop Business Plan).</li> </ul> | <ul style="list-style-type: none"> <li><input type="checkbox"/> Advocacy communication plans in place, including arrangements with local radio stations and other media.</li> </ul> |
|--|---|---|

Source: Project Document-Organizing for Sustainable Agriculture Practices

**2. The Project Setting**

The four villages in Baluwapati Deupur VDC (After restructuring of local levels merged together and formed as ward 1 and 2 of Mandandepur Municipality), Kavre District were selected for the project operation because of the villagers’ request to Trianglen for assistance for the improvement of agricultural system. The farmers have been repeatedly growing same set of crops for many years without considering the soil health which resulted in steady depletion of soil nutrients and demanded for increased application of synthetic fertilizers and pesticides to maintain yield. Vegetable farming where project intervened also suffered from similar practices.

Mandandepur is located approximately 55 kilometre North-East of Kathmandu in Kavre District (one of the 77 districts in Nepal). It is one of the 13 municipalities (including rural municipalities) of Kavre District which covers approximately 89 square kilometres. Mandandepur municipality has been formed consolidating 6 former VDCs and large portion of 7<sup>th</sup> one. It is further divided into 12 wards. Table 2 presents consolidation of existing VDCs / wards in various wards of Mandandepur municipality.

Table 2: Consolidation of former VDCs and wards in Mandandepur Municipality

| Former VDC/Ward | Mandandepur Municipality ward |
|-----------------|-------------------------------|
|-----------------|-------------------------------|

|  |    |
|--|----|
| Baluwapati Deupur VDC ward 1,3,5,and 4       | 1  |
| Baluwapati Deupur VDC ward 2,4,7, and 9      | 2  |
| Nayagaun Deupur VDC ward 3,4,7,8, and 9      | 3  |
| Nayagaun Deupur VDC ward 1,2,5,and 6         | 4  |
| Gauribishauni Deupur VDC ward 2,6,7,8, and 9 | 5  |
| Gauribishauni Deupur VDC ward 1,3,4, and 5   | 6  |
| Mahadevsthan Mandan ward 7,8, and 9          | 7  |
| Mahadevsthan Mandan ward 1 and 2             | 8  |
| Mahadevsthan Mandan 3,4,5, and 6             | 9  |
| Chandeni Mandan ward 1-9                     | 10 |
| Jaishithok Mandan ward 1-9                   | 11 |
| Jyamdi Mandan 1,2,3,4,and 6                  | 12 |

Source: Policy, Program and Budget for Fiscal Year 2075/076, Mandandeupur Municipality

### Population:

The national census conducted in 2011 has shown 7,328 households and 32,659 (female 17,339 and male 15,320) population in Mandandeupur Municipality. The municipality updated its population in 2018 by mobilizing respective ward chairpersons and volunteers. The population has been found increased from 32,659 to 39,757 (female 19,415 and male 20,342) in 7 years. Ethnic composition wise Janajati (indigenous nationalities) makes 44% (17,315), followed by bhraman 36% (14,274), Chhetri 10% (4,057), dalit 9% (3,356) and marginalized 1% (566)<sup>1</sup>.

### Present economic activities:

Mandandeupur Municipality's' economy is based on agriculture. This area is considered as pocket area for growing –potato, tomato, cauliflower, and cabbage. It also grows fruits like mango, litchi, orange, plum, pear etc. The other source of income is river bed / the riverbed materials collection, which worth NRs 90 million. Farmers of this area have been found using excessive chemical fertilizers and pesticides. As a result, affects has been felt in crop growth and soil fertility.

### 3. The Project Review and Evaluation

<sup>1</sup> Policy, Program and Budget for Fiscal Year 2075/076, Mandandeupur Municipality

The Project Document stipulates three layers of reviews and evaluation. The Project Steering Committee (PSC), responsible for internal reviews, had met 5 times to track progress and steer the future course<sup>2</sup>. A comprehensive midterm review, carried out jointly by Trainglen Nepal Representative and an expatriate, assessed and summarized progress, achievements and lessons learnt. The review preliminary findings were presented in the PSC in October 2017<sup>3</sup>. Based on preliminary findings, the PSC made a decision for recommending one year no cost extension. CISU endorsed the PSC decision and was project extended initiated till September 2019.

The report in hand is an external evaluation of the project. The aim of the external evaluation<sup>4</sup> is to collect information and analyze, focusing on Relevance, Effectiveness, Impact, Efficiency, sustainability, and participation of both systems and practices initiated by the project. The report highlights about what has happened or not happened during the project period and perspectives for a possible replication of the project in nearby village.

## **Team**

The Evaluation was carried out by a team of two external consultants with support from ASK staff and farmers. The team sincerely appreciates ASK staff and farmers for their support during field work and later.

Bhawani Prasad Kharel<sup>5</sup>, lead consultant, is basically Natural Resource Management (NRM) professional with relevant university degrees and work experiences. He had worked for Government and INGO and engaged in project design, management, reporting and evaluation. Similarly, Rabin Bogati<sup>6</sup> is climate resilient farming system expert with relevant university degrees and experiences in project planning, execution, and evaluation. He worked several years for Government and for International Agencies.

## **4. Evaluation Method and Criteria**

The evaluation team visited field sites<sup>7</sup>, all four FFS sites and interacted with lead farmers, their families, farmer group members and neighbours<sup>8</sup>. The team interacted several times with ASK executive director, ASK Kavre branch manager, and field staff. The team also discussed with the

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<sup>2</sup> Annual Progress Report, 2018

<sup>3</sup> OSAP Review Report, November 2017

<sup>4</sup> ToR for the external evaluation is attached in Annex 1.

<sup>5</sup> CVs of Kharel is presented in Annex 2

<sup>6</sup> CVs of Bogati is presented in Annex 3

<sup>7</sup> List of persons met and / or consulted during the evaluation is presented in Annex 4

<sup>8</sup> Field notes summarizing farmers responses is presented in Annex 5

Chair and secretary of Shramshil Saving and Credit Cooperative Ltd. Elected members of the local Government (Ward Chair) were also consulted to better understand their perspectives.

Several project related documentations such as project document, project annual reports, review report, leader farmers meeting feedback notes were reviewed to extract relevant information. Agriculture Development Strategy (ADS), National Agriculture Policy, Annual Policy and Program of Federal Government, Provincial Government, and Local Government were also reviewed to scan their positions on promoting organic agriculture product and practices.

The analysis and presentation of information have been concentrated in the framework of six evaluation criteria given in external evaluation Terms of References. The criteria include relevance, effectiveness, efficiency, impact, sustainability, and participation.

### 1) Relevance

Approximately 45% population of the four targeted villages (Gairigaun, Haleddee, Makaibari, and Sathikuriya) were growing limited vegetables (potato, onion, cauliflower, soybean, tomato) in their kitchen garden for household consumption. Very few of them were growing Potato (16,650 Kg/year), cauliflower (1,000 Kg/year) in commercial scale for sale. Soil quality was mostly moderate to low and almost none of them made proper use of farmyard manure and cattle urine which they had in good volume<sup>9</sup>. After project intervention 73% targeted farmers are using animal urine, 57 % are practicing compost, and 56% are using organic liquid pesticide. Almost all are using organic vegetables for household consumption and 27 % of them are selling out 48 different types of organic vegetables<sup>10</sup>. The evaluation team could observe organic farm management facilities such as urine collection system, farmyard manure collection bay, compost pit, liquid manure etc. All farmers, the team visited, were very happy and expressed commitment and willingness for continuation of organic farming practices. Farmers' acceptance of organic vegetable farming technologies in short time indicates that the project had addressed their felt needs.

Agriculture Development Strategy (ADS), a 20 years vision of the Government of Nepal, approved in July 2015, is consisting of overall strategy for agriculture development including 10 years of action plan and roadmap. One of the outputs includes establishment and adoption of sustainable farming and good agriculture practices. It further elaborates improving soil fertility through increasing soil organic matter from existing 1.96 % to 3% in 5 years, 3.92 % in 10 years and 4% in 20 years. The output description exclusively highlights promotion of organic /biofertilizer as supplementary and complementary to chemical fertilizer for higher agriculture productivity. Similarly, National Agriculture Policy of Nepal introduced since 2004 emphasizes

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<sup>9</sup> Project Baseline Survey

<sup>10</sup> Project Annual Progress Report

promoting production, utilization and management of organic fertilizer. In the fiscal year 2018/19 Government launched a five year Mission Organic Agriculture for promotion and expansion of local crops, and promotion of organic farming in open field in Peri-Urban area. Recently published Nepal Government's Policy and Program for the year 2019/2020 declares development and up scaling biotechnology to minimise health hazards caused by application of chemical fertilizer and pesticides. It also emphasizes enhancing organic farming.

As per the recently restructured federal system, the project villages are located in province 3. The provincial government of the province 3 has recently published its annual policy and program for the year 2019/20 and states that the agriculture development shall be oriented towards converting entire province as chemical pesticide free organic province. It further emphasized on identification and declaration of organic agriculture areas where chemical fertilizer and chemical pesticide free agriculture has been in practices. The provincial government also aims at producing organic products at a larger scale. It has also declared crop and livestock insurance to safeguard farmers from potential losses caused by calamities.

Mandandepur Municipality is the local level government where the project has been implemented. The municipality in its 2018/19 annual plan has included training farmers on organic oriented vegetable farming and establishment of vegetable collection centre in ward 1. The same plan has made provisions for availing seeds and agriculture equipment to farmers for producing organic oriented vegetables in ward 2. It was learned during interaction with Municipality that Municipality has special agriculture and animal husbandry programme focusing in organic farming.

ASK Nepal a National NGO registered in Nepal for more than two decades is the implementing agency of this project. Similar to most NGOs, ASK has been working in wider areas such as advocacy, governance, conflict management, forestry, veterinary & animal husbandry, bee keeping and conservation farming. ASK introduces itself as an organization which focuses on sustainable farming technology and commercial farming system including marketing. Sustainable Agriculture and Livelihood is one of the five programmatic areas where ASK has been focusing on. Above mentioned facts shows reasonable compliance of implementing agency with the core values of the project.

The long term Agriculture strategies, policies, current programs, and mission program of the Federal Government of Nepal have emphasized promoting organic agriculture methods and practices. The Provincial Government, through its current policy and program, has envisioned gradual conversion of entire province into chemical fertilizer and pesticide free organic agriculture zone. The Mandandepur municipality has already initiated pragmatic support to project targeted villages for promoting organic vegetable farming practices. The project targeted farmers have overwhelmingly adopted organic oriented vegetable farming and have expressed commitments for continuation. It is thus inferred that the project which was

dedicated to organizing sustainable agriculture practices through organic vegetable farming and marketing is highly **relevant** to the recipient country in general and recipient farmers in particular.

## 2) Effectiveness

Effectiveness is a measure of achievements against project objectives and extent of its reach to targeted beneficiaries. The evaluation has thus been focused to achievements of three designed immediate objectives of the project. Project reach to the targeted beneficiaries are covered as part of achievements, further elaborations are included later in participation section. Achievements of interventions for each immediate objective are presented in following sub-sections.

### **Immediate Objective 1 (IO1): Agriculture groups in 4 selected villages in in Baluwapati Deupur VDC organized and develop intensive and sustainable agricultural production for self-consumption and sale.**

This objective has two distinct elements: a) Organizing groups, b) Developing intensive and sustainable agriculture production for self-consumption and sale.

**Organizing groups:** Key elements of organizing group include group formation complying with governance particularly participation, holding meetings, and record keeping. The evaluation team found that 4 farmer groups, one each in Gairigaun (22), Haleddee (30), Makaibari (23), and Sathikuria (24) with a total of 99 members were formed, group governance by-laws were prepared, endorsed by concerned group members and finally registered in District Agriculture Office within the anticipated time frame (by February 2016). In addition, five groups one each in Chapgaun (25), Dhadgaun (25), Chitegaun (24), Kafleni (29) and Dubagaun (23)<sup>11</sup> with a total of 126 members were also registered to District Agriculture Office following similar steps. All nine groups conducted monthly meetings, discussed on contemporary issues, and collected funds for savings which they mobilized as microloan.

### **Developing intensive and sustainable agriculture production for self-consumption and sale:**

The second element of the first immediate objective is found somehow contradicting in itself. The intensive agriculture refers to optimizing crop productivity with large amount of fertilizer, pesticides and labour inputs. In contrary, sustainable agriculture primarily focuses on environmental health and supported by economic profitability, and social and economic equity. However, outputs and performance indicators are silent on intensive agriculture rather inclined to organic agriculture which is one of the several approaches of sustainable agriculture<sup>12</sup>. Organic agriculture as a holistic production management system that avoids use of synthetic fertilizers, pesticides and genetically modified organisms, minimizes pollution of air, soil and

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<sup>11</sup> Number in parenthesis indicates number of farmer household in each group

<sup>12</sup> COAG/99/9 Rev.1; <http://www.fao.org/organicag/oa-faq/oa-faq1/en/>

water, and optimizes the health and productivity of interdependent communities of plants, animals and people<sup>13</sup>. Project achievements in term of effectiveness are analysed to seek answers to a) extent of fulfilment of targeted quantitative outputs, b) compliance to organic production system.

**a) Extent of fulfilment of targeted quantitative outputs:** The project had two pronged approaches i) enhancing technical skills, and ii) assisting farmers to apply acquired skills into actions. The project conducted number of practical trainings for targeted farmers for enhancing their technical skills<sup>14</sup>. Seven out of 8 types of planned training / learning targets were overwhelmingly achieved. In some cases the quantitative achievements exceeded 3 folds. The quantitative achievement of “training on management of soil and seed” has been found 72 % against plan (43 trained against 60 planned). This has probably been compensated by soil sampling training where 80 participated. The project, through field staff, continuously mentored targeted farmers to apply acquired skills in practice. In addition it also provided financial and material supports to selected farmers for developing necessary farm level infrastructures. Main supports were in areas for application of FYM and animal urine; compost manure, liquid manure and organic pesticides; organic kitchen gardening; commercial organic vegetable farming; and agroforestry. The quantitative achievements in each case exceeded planned outputs. Quantitative targets and achievements are presented in Table 3.

**b) Compliance to organic production system:** The parameters for compliance to organic production system includes i) to avoid use of synthetic fertilizers, pesticides, and genetically modified organism, ii) to minimize pollution to air, soil, and water, and iii) to optimize the health and productivity of interdependent communities of plants, animals, and people. The vegetable production system adopted by targeted farmers have been analysed based on above parameters.

**Avoid use of synthetic fertilizers, pesticides, and genetically modified organism:** More than 70 % farmers of 9 agriculture groups substituted synthetic fertilizers by FYM, organic liquid manure, and organic compost in their vegetable farms. Similarly, more than 55% farmers of same groups substituted synthetic pesticides by homemade organic pesticides. Some farmers also used green trap, yellow trap, and pheromone trap to limit insect population. Use of genetically modified organism is not at all practiced in the project area.

**Minimise pollution to air, soil, and water:** Synthetic fertilizers, pesticides, animal urine, burning unutilized plant parts are main sources of air, soil, and water pollution. Application of FYM and compost manure have prevented synthetic fertilizers, equivalent to 2,562 Kg of urea, 631Kg of DAP, and 2,774Kg of MOP in 3 years, entering in farming

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<sup>13</sup> International Conference on Organic Agriculture and Food Security; <http://www.fao.org/organicag/oa-specialfeatures/oa-foodsecurity/en/>

<sup>14</sup> The types of training are presented in Annex 6.



system. Similarly, farmers collected approximately 2062 litres animal urine each day which they converted either as liquid manure or organic pesticides<sup>15</sup>. This has prevented urine leaching in soil or nearby water body. The crop residues, weeds and other unused plants have been converted either into compost or organic pesticides which otherwise were burnt. This has prevented releasing greenhouse gases in the atmosphere.

**Optimize the health and productivity of interdependent communities of plants, animals, and people:** Farmers generally opined overall increment of crop productivity in their organic vegetable farms, kitchen garden, and agroforestry. Unused vegetable leaves, stalks, and roots were healthy foods for animals. The animal sheds improved to ease collection of dung and urine provided healthy environment for animals to live in. All 225 farmers consumed organic vegetables at least for few months in a year. Approximately 30 % of them have reported organic vegetables consumption round the year. Animal dung and urine excellent source of organic fertilizers and pesticides. A complete nutrient cycle mutually benefiting to communities of plants, animals and people has been found evident in the farming system.

The last part of the first immediate objective expects sustainable agriculture production both for self-consumption and sale. Outputs and objectively verifiable indicators are silent about the extent of production both for household consumption and sale. The project progress report has recorded all the participating farmers (225 household) consumed organic vegetables at least for few months, 30 % of them round the year, and 27 % of them sold out on an average of 578 Kg per household per annum.

Above discussion portrays that targeted outputs are overwhelmingly achieved, fully complied with organic vegetable production system, and consumption of organic vegetables and sales at satisfactory level.

Table 3: Summary of achievements against IO1 output targets

| Key Indicators  | Quantitative output targets  | Achievements   |
|---|--|--|
| <b>1) Organizing groups</b>   |  |  |
| Group formation insuring governance, participation, holding meetings, and record keeping. | <ul style="list-style-type: none"> <li>4 agriculture groups with 100 members established with democratic rules and by-laws by February 2016</li> </ul> | <ul style="list-style-type: none"> <li>9 agricultural groups, one in each village, with 225 members in total were established with group statutes</li> <li>9 agriculture groups meet once every month, discuss technical issues, share experiences, collect monthly savings, and mobilize savings for microloans.</li> </ul> |

<sup>15</sup> Table 3

|   |   |   |
|---|---|---|
|   |   | <ul style="list-style-type: none"> <li>9 agriculture groups have a total savings of Nrs. 657,347</li> </ul>   |
|   | <ul style="list-style-type: none"> <li>Registration of 4 agriculture groups in District Agriculture Office</li> </ul>                 | <ul style="list-style-type: none"> <li>9 agriculture groups registered in District Agricultural Office, Dhulikhel, Kavre District</li> </ul>          |
| <p><b>2) Developing intensive and sustainable agriculture production for self-consumption and sale.</b></p> |   |   |
| 100 farmers of 4 agriculture groups trained in principles and practices for sustainable and organic farming |   |   |
| <ul style="list-style-type: none"> <li>Skill development in organic vegetable farming</li> </ul>            | <ul style="list-style-type: none"> <li>60 farmers trained in FYM and urine collection</li> </ul>                                      | <ul style="list-style-type: none"> <li>236 farmers trained in Organic Farmyard Manure Management (FYM) and animal urine collection.</li> </ul>        |
|   | <ul style="list-style-type: none"> <li>60 farmers trained in preparation of compost, liquid manure, and organic pesticides</li> </ul> | <ul style="list-style-type: none"> <li>220 farmers trained in preparation of Organic Compost Manure, Liquid Manure and Organic Pesticides.</li> </ul> |
|   | <ul style="list-style-type: none"> <li>60 farmers trained in management of organic kitchen gardening</li> </ul>                       | <ul style="list-style-type: none"> <li>202 farmers trained in Organic Kitchen Garden Management</li> </ul>  |
|   | <ul style="list-style-type: none"> <li>60 farmers trained in growing organic vegetables in commercial scale</li> </ul>                | <ul style="list-style-type: none"> <li>101 farmers trained in Organic Commercial Vegetable Farming</li> </ul>   |
|   | <ul style="list-style-type: none"> <li>30 farmers trained in agroforestry management</li> </ul>                                       | <ul style="list-style-type: none"> <li>44 farmers trained in Organic Agroforestry Management</li> </ul>   |
|   | <ul style="list-style-type: none"> <li>60 farmers trained in mangement of soil and seed</li> </ul>                                    | <ul style="list-style-type: none"> <li>43 farmers trained in management of soil and seed</li> </ul>   |
|   | <ul style="list-style-type: none"> <li>4 farmers field school established</li> </ul>  | <ul style="list-style-type: none"> <li>5 FFS established but only 4 continued</li> </ul>  |

|   |   |   |
|---|---|---|
|   | <ul style="list-style-type: none"> <li>1 event of exposure visit</li> </ul>                   | <ul style="list-style-type: none"> <li>47 farmers, in 2 events, participated in exposure visit in various organic agriculture farms</li> </ul>  |
|   | Not defined   | <ul style="list-style-type: none"> <li>80 farmers trained in Soil Test (Soil sampling technique)</li> <li>119 farmers participated in soil test process.</li> </ul>   |
| Compliance to organic vegetable farming   |   |   |
| <ul style="list-style-type: none"> <li>Avoid use of synthetic fertilizers, pesticides, and genetically modified organism</li> </ul> | 60 farmers supported practicing application of FYM and animal urine                           | <ul style="list-style-type: none"> <li>165 farmers of 9 agriculture groups practiced preparation and application of organic FYM and animal urine instead of synthetic fertilizers.</li> </ul>   |
|   | 60 farmers supported practicing application of compost, liquid manure, and organic pesticides | <ul style="list-style-type: none"> <li>128 farmers of 9 agriculture groups practiced preparation and application of organic compost manure, organic liquid manure, and homemade organic pesticides instead of synthetic fertilizers and pesticides.</li> </ul>                                |
|   | 60 farmers supported practicing organic kitchen gardening                                     | <ul style="list-style-type: none"> <li>225 farmers established and operated kitchen garden for organic vegetable production.</li> </ul>   |
|   | 40 farmers supported practicing commercial organic vegetable farming                          | <ul style="list-style-type: none"> <li>61 farmers practice commercial organic vegetable farms without using synthetic fertilizers and pesticides</li> </ul>   |
|   | 20 farmers supported practicing organic agroforestry  | <ul style="list-style-type: none"> <li>22 farmers established agroforestry in approximately 46 <i>ropanies</i> of sloping land without using synthetic fertilizers and pesticides</li> </ul>  |
|   | Application of agriculture lime - Not defined   | <ul style="list-style-type: none"> <li>116 farmers (99 from 4 agriculture groups and remaining not affiliated to groups) applied agriculture lime to improve soil pH.</li> </ul>  |
| <ul style="list-style-type: none"> <li>Minimise pollution of air, soil and water</li> </ul>   |   | <ul style="list-style-type: none"> <li>Substituted synthetic fertilizers, equivalent to 669 Kg. of urea, 268 Kg. of DAP, and 873 Kg. of MOP, by 291 tons of slow releasing fully degraded FYM over three years. This contributed preventing potential pollutants entering in farm.</li> </ul> |

|  |             |   |
|--|-------------|---|
|  |             | <ul style="list-style-type: none"> <li>• Substituted synthetic fertilizers, equivalent to 1893 kg urea, 363 kg DAP, and 1901 kg MOP, by 158 tons of compost manure over three years. This contributed preventing potential pollutants entering in farm.</li> <li>• 165 farmers collected approximately 2062 litres of animal (buffalo and cattle) urine each day and converted into liquid manure. Application of such liquid manure in appropriate quantity prevented leaching in ground water and running off to nearby water body.</li> <li>• 128 organic vegetable growers substituted synthetic pesticides by homemade organic pesticides. It prevented harmful chemical pollutants entering in farm and atmospheres.</li> </ul> |
| <ul style="list-style-type: none"> <li>• Optimize the health and productivity of interdependent communities of plants, animals , and people</li> </ul> | Not defined | Farmers opined overall increment of productivity in their organic vegetable farms, kithen garden, and agroforestry. Quantitative achievements not recorded.   |

*Source: Project document, Annual Progress Report, field observation, interaction with farmers and project staff*

**Immediate objective 2 (IO2): Ecological cooperative in Balawapati Deupur VDC produce and sell production of vegetables based on organic and climate resilient methods with a profit.**

The second immediate objective (IO2) has intended cooperative to lead in institutionalizing practices of organic and climate resilient vegetable production and marketing. The Cooperative Act has provisions for registration of cooperative either for multiple objectives or for single specialized objective<sup>16</sup>. The term ecology is very specialized and covers much boarder theme, therefore, the appropriateness of the term ecology used for qualifying cooperative is hard to justify or even not necessary. We suggest readers to understand it just as a cooperative.

Organic and climate resilient production methods are not exactly same but have some commonalities. The organic production methods strictly avoid use of synthetic fertilizers and pesticides which are not mandatory in climate resilient methods. The climate resilient methods basically addresses climate uncertainties particularly the situation of extreme and erratic rains

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<sup>16</sup> Cooperative Act, 2074

as well as extreme temperatures. Use of both terms has further complicated the essence of IO2. Some common methods include water harvesting (community pond, plastic pond), water management precision (sprinkle irrigation, drip irrigation), mulching, crop residue management, FYM management, soil management (erosion control)<sup>17</sup>. The project outputs and interventions were totally concentrated towards organic vegetables therefore the discussions confine organic vegetable production and marketing. Out of five designed outputs and respective performance indicators, one is about organizing farmers into bigger group, two are for sustaining farming practices by establishing reliable organic agriculture input system and enhancing farming knowledge and skills, and remaining two are for marketing the product with a profit. In marketing part, the designed outputs are explicit on maintaining quality standard (production and delivery) of the products and medium to long term sale contract between producers (farmers) and buyers (hoteliers). Achievements of IO2 have been evaluated in the framework of above mentioned five outputs and their performance indicators.

**Establishing cooperative with FFS in four villages:** This output intends organizing farmers into much larger group for strengthening their capacity to better access resources and services from various service providers particularly from government agencies and also for influencing policy and program in favour of organic vegetable production and marketing. Review of project progress reports, discussion with leader farmers and project staffs it was confirmed that eight organic farmer groups including groups in four villages with FFS have got registered as group member in Shramsil Saving and Credit Cooperative Limited located in then Baluwapati Deupur village development committee. The project as well as farmers found convenient joining hands with existing Sharmshil Saving and Credit Cooperative Ltd. located in Gairigaun (one of the nine targeted villages) rather than establishing new one in the same locality as competitor. Resulted from project assistance in training and financial support for crop insurance, business development plan preparation, establishing vegetable collection centre etc, the cooperative has broaden its scope and introduced organic farming, crop and livestock insurance schemes in its policy.

All eight registered group deposited some portion of their group savings in cooperative (minimum of Rs 1500/group/month). The farmers belonging to eight registered groups have been reported benefited from microloan scheme of the cooperative. Nineteen farmers belonging to registered groups have had crop insurance for various vegetables of which 4 farmers were reported compensated when their crop failed.

**Organic agriculture input system in place:** This output aims at making agriculture input easily available in affordable cost when required. The basic inputs of organic vegetable farming include seeds, fertilizer, pesticides, money, and labour. Most seeds have been coming from

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<sup>17</sup> See climate resilient methods in - Paudel, B, K.P. Bhatta and P Chaudhary, 2016, climate smart agriculture technologies and practices for Nepal, LI-BIRD, Nepal ([http://www.libird.org/app/publication/view.aspx?record\\_id=243](http://www.libird.org/app/publication/view.aspx?record_id=243))

local vendors located in nearby cities such as Banepa, Dhulikhel and Bhaktapur. The available seeds were not necessarily developed for organic farming and in some instances seeds of unknown sources have been repackaged by vendors. Though farmers have not reported seed related major disaster but one leader farmer opined that local tomato seeds (cherry tomato) have done better than the seeds coming from the market. It has been reported that 20 targeted farmers have initiated production of vegetable seeds to meet local needs. They succeeded producing seeds of green bean/ cowpea, bean, luffa/sponge-gourd, cucumber, and mustard greens. Similarly, 25 farmers have produced vegetable seedlings and sold out to other farmers.

Farm yard manure, compost manure and animal urine have been found managed and used by targeted farmers from their own sources. Approximately 55 % farmers organized in 9 groups have covered their farm yard manure bay by metal roof to protect against direct sun heat and rain. This would reduce nutrient to volatilize and leach. Approximately 54% of them have been practicing compost making, and 73% have been collecting animal urine and use as manure.

Nearly 56 % farmers of nine farmer groups have been using liquid organic pesticides which they prepared mixing animal urine and locally available various plant parts. The evaluation team observed some farmers using insect traps (blue traps, yellow traps, pheromone trap), procured from local vendors, to reduce insects.

Organic farming is more labour demanding. The family members have been regularly maintaining their farms. Additional labours have been locally hired at time of need particularly for land preparation, planting and harvest.

Organic agriculture input system was mostly found in place at satisfactory level with ample scope to improve system for seeds (not all types are produced locally or not necessarily organically). The system at place seems operational for small scale farms (farm size approximately 2 *ropanies* even for commercial farmers). An additional consideration has to be made in case the farm size has to increase. Introduction of organic decomposer (to accelerating decomposition process), vermin compost etc. may be few options for increasing organic fertilizer volume without adding more financial load.

**Sharing and learning system in place:** Farmer Field School (FFS), Farmer Group Meeting, Lead Farmer Meeting, exposure visits have been found instrumental in imparting conceptual knowledge and practical skills about organic vegetable farming to targeted farmers. Ninety nine farmers of 4 groups have largely benefitted from practical training conducted at their respective FFS. The FFS covered both hands on experience and observation of FYM management, compost making, urine collection, organic liquid manure and pesticide making, cultivating vegetables, vegetable nurturing, use of fertilizer and pesticides, making beds and plastic tunnels etc. Farmer group meeting which met once every month provided practical forum to share each other's experience and generate ways and means to resolve farming and marketing related problems of individuals. A total of 225 farmers of 9 farmer groups were

benefitted by this initiative<sup>18</sup>. Leader farmers meeting which met once every month in ASK Kavre Branch Office, Nagarkot provided opportunities for sharing farming and marketing related experiences between nine groups. Such meetings were participated by 9 leader farmers and project staff. Exposure visits to various sites were instrumental in widening up participants knowledge and building confidence of farmers for practicing organic farming. The visits were conducted to have exposure on organic farming practiced in Pokhara and Syangza by farmers of similar background as of Baluwapati Deupur farmer. They could also learn how organic farming is linked with cooperatives. Other sites were vegetable seed production centre in Khumaltar and floriculture centre in Godawori. This visit provided them opportunity to learn more about vegetable types and seeds as well as technologies for growing vegetables and flowers. A total of 72 (47 farmers, remaining others) participants belonging to 8 groups, representative of Shramshil Saving and Credit Cooperative Ltd., and representatives of Agriculture Centre were benefited from this intervention.

**Medium to long term sale contract with hotels and restaurants:** This designed output aims to assure markets for locally produced organic vegetables. This highly ambitious output was not at all in control of the project because it involved commercial entrepreneurs who were in access of several options to choose. However, it has been recorded that the members of hotel association agreed paying premium price (15-20 % higher for organic products) in one of the meeting between members of hotel association and Shramshil Saving and Cooperative Ltd. In order to ensure compliance of the non-formal agreement for sale of organic vegetables the same meeting also endorsed the regulatory policy of the vegetable collection centre. Farmers have mixed opinion about the functioning of collection centre as well as premium price paid by hotels and restaurants. Some farmers had sold some of their products in selected hotels in premium price; remaining farmers mostly competed with non-organic products coming from other areas. Collection centre generally paid less than hotels and restaurant; however it bought more types of vegetables than hotels and restaurants.

**Developing quality standard and compliance of production principles, supply and delivery:** This output was designed to a) guarantee process compliance with organic methods of production, transport and delivery; b) determining insurance premiums for different vegetables. The farm level business plan supposed to address these issues. The evaluation team could not find evidence of such business plan. However, insurance price policy and business development plan of the cooperative for vegetables has been determined and applied. Further attention and efforts are needed to streamline maintaining quality standard and compliance of production standard, supply and delivery.

Out of five designed outputs, achievement related to **establishment of cooperative** has been found deviated from original plan but still largely succeeded in organizing farmers into larger

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<sup>18</sup> List of project activities and their participants in Annex 7

group. **Organic agriculture input system** fairly good with some rooms for improvement. **Sharing and learning system** has been found at satisfactory level. **Medium to long term sale contract** and **Developing quality standard and compliance of production principles, supply and delivery** have been marginally achieved.

In absence of individual farms’ book of expenditure and sale, the profit or loss could not be quantified. The commercial farmers reported higher benefits compared to their past practices. Continuation of organic vegetable farming at commercial scale may have been driven by higher economic benefits.

Table 4: Summary of achievements against IO2 output targets

| Key Indicators  | Quantitative output targets  | Achievements   |
|---|--|--|
| <b>1) Establishing cooperative with FFS in four villages:</b> |  |  |
| Legally recognised cooperative, membership, and services      | <ul style="list-style-type: none"> <li>Cooperative established for agriculture groups</li> </ul> | <ul style="list-style-type: none"> <li>Eight of nine farmers group registered as group member of existing Sharmshil Cooperative Limited Gairigaun. Registered groups were Prakriti Farmers Group, Gairigoan; Chittegaun Farmers Group, Chittegaun; Sayapatri Farmers Group, Chhapgaun; Mahankal Farmers Group, Dubagaun; Dhandagaun Farmers Group, Dhandagaun; Lalupate Farmers Group, Makaibari; Lagansheel Farmers Group, Kafleni; and Laligurans Farmers group, Sathikuria</li> <li>All eight registered group have been regularly depositing their savings (minimum of Rs 1500/group/month) in the cooperative. Farmers affiliated to eight registered groups have been utilizing cooperatives’ microloan scheme</li> <li>Shramshil Cooperative has broadened its scope and introduced organic farming, crop and livestock insurance schemes in its policy.</li> </ul> |
|   | <ul style="list-style-type: none"> <li>FFS operational in 4 villages</li> </ul>                  | <ul style="list-style-type: none"> <li>FFS operational in 4 villages namely Dhandagaun, Gairigaun, Makaibari, Sathikuria.</li> </ul>   |



| <b>2) Organic agriculture input system in place</b>                        |   |   |
|--|---|---|
| <p>Basic inputs: Agriculture seeds, fertilizer, pesticides, and loans.</p> | <ul style="list-style-type: none"> <li>• Seeds – as per need</li> </ul>   | <ul style="list-style-type: none"> <li>• At early stage- project procured and supplied vegetable improved vegetable seeds.</li> <li>• At later stage- Farmers procured seeds from vendors (recognized by project staff) located in nearby cities.</li> <li>• 20 farmers produced seeds of green beans/cowpea, beans, luffa/ sponge gourd, cucumber, and mustard greens.</li> <li>• 25 farmers produce vegetable seedlings and sell to other farmers</li> <li>• 46 farmers succeeded obtaining 2082 forest tree, fodder and fruit seedlings from DLSO, DSCO, and DFO Office free of cost, and 119 received 8000 large cardamom seedlings from Municipality on 50 % subsidies.</li> </ul> |
|  | <ul style="list-style-type: none"> <li>• Lead farmers use fertilizer produced from their own farms. Pesticides – not defined</li> </ul> | <ul style="list-style-type: none"> <li>• 165 farmers including all 9 leader farmers prepared and used decomposed FYM, liquid manure (made from animal urine and other materials) on regular basis.</li> <li>• 128 farmers including all 9 leader farmers prepared and used compost manure on regular basis. 126 farmers including 9 leader farmers prepared homemade organic pesticides and used when needed.</li> </ul>  |
|  | <ul style="list-style-type: none"> <li>• Loans</li> </ul>   | <ul style="list-style-type: none"> <li>• All eight groups registered in Shramshil Saving and Credit Cooperative Ltd were able to obtain microloans from cooperative. Eight of nine groups mobilized group savings to their members as microloans. Haledde Farmers Group did not participate in cooperative. Dhanadagaun Farmers group did not mobilize group savings as microloans.</li> </ul>  |

|   |  |   |
|---|--|---|
|   | <ul style="list-style-type: none"> <li>• Other</li> </ul>  | <ul style="list-style-type: none"> <li>• Farmer of the groups obtained materials and implements for 20 plastic tunnel, 20 drip irrigation, 7 plastic pond, and sprayers through other organization working in project area.</li> </ul>  |
| <b>3) Sharing and learning system in place</b>                          |  |   |
| FFS learning, exposure visit, group meeting, network meeting            | <ul style="list-style-type: none"> <li>• Farmers of 4 groups learned from FFS</li> </ul>                                     | <ul style="list-style-type: none"> <li>• 99 farmers of 4 groups regularly benefited from FFS, other interested farmers learnt visiting FFS and observing at time of training.</li> <li>• Leader farmers trained 29 farmers not affiliated to agriculture groups.</li> </ul>   |
|   | <ul style="list-style-type: none"> <li>• Exposure visit (1 event included in IO1)</li> </ul>                                 | <ul style="list-style-type: none"> <li>• A total of 72 (47 from eight agriculture groups), project staff, representative of cooperative, and representative Agriculture Service Centre (ASC) visited Vegetable Seed Production Centre, Khumaltar; Floriculture Centre, Godavari; farmers run organic vegetable farms in Pokhara and Syangza.</li> </ul>   |
|   | <ul style="list-style-type: none"> <li>• Group meeting, network meeting (quantity not defined)</li> </ul>                    | <ul style="list-style-type: none"> <li>• Leader farmer organise group meeting once every month and share each other's experiences.</li> <li>• The farmers groups are connected by a network. The network meeting represented by leader farmers meet every month in Nagarkot. The project staffs facilitate the meeting. They share experiences and summarize vegetable sales record.</li> </ul> |
| <b>4) Medium to long term sale contract with hotels and restaurants</b> |  |   |
| Sale contract   | <ul style="list-style-type: none"> <li>• Contract document signed by cooperative and buyers (hotels, restaurants)</li> </ul> | <ul style="list-style-type: none"> <li>• Hotel association representative consent in paying premium price for organic vegetables. This has been recorded in one of the meeting minute held between Shramshil Saving and Credit Cooperative Ltd and hotel association representatives.</li> </ul>  |

|  |  |  |
|--|--|--|
|  |  | <ul style="list-style-type: none"> <li>• 61 farmers sold organic vegetables and earned approximately Rs 30,887 / farmer over period of 3 years.</li> <li>• 30 hotels and restaurants in Nagarkot and villages have been using organic vegetables produced by farmers. Farmers either supplied directly to hotels / restaurants or through collection centre.</li> </ul>        |
| <b>5) Developing quality standard and compliance of production principles, supply and delivery</b> |  |  |
| Quality standard and principles of production, supply and delivery.                                | <ul style="list-style-type: none"> <li>• One set of quality standard of the product</li> <li>• One set of principle of production, supply, and delivery</li> </ul> | <ul style="list-style-type: none"> <li>• Shramshil Saving and Credit Cooperative Ltd. has incorporated insurance scheme for organic vegetable production. The production standard has been determined for purpose of fixing insurance premium cost.</li> <li>• 19 farmers participated in vegetable crop insurance and 4 of them were compensated for crop failure.</li> </ul> |

*Source: Project document, Annual Progress Report, field observation, interaction with farmers and project staff*

**Immediate objective 3 (IO3): Extended advocacy on local food production based on climate resilient, organic production methods enhancing sustainable use of land resources and reducing poverty through income from intensive small scale agriculture.**

IO3 has been found much broader than development objective. Broader terms like poverty reduction, sustainable use of land resources have also appeared. Inappropriateness of terms like climate resilient, intensive agriculture was discussed in earlier IOs. In addition, review of the IO3 outputs, project interventions, and budget allocation the evaluation team have suggested IO3 revision. The revised IO3 should have been “Extended advocacy on organic vegetable production methods”. The crux of the revised IO3 would be changing mind-set of the farmers, service providers, and consumers in favour of organic vegetable production methods. The project document has defined two means as outputs: linking cooperative of farmers’ group to likeminded organization beyond Baluwapati Deupur, and reaching wider audiences through various media including radio, for achieving IO3<sup>19</sup>. Evaluation focuses on achievements of two outputs mentioned earlier.

<sup>19</sup> Table 1, column 3

### **Linking cooperatives of farmers' group to likeminded organizations outside Baluwapati**

**Deupur VDC:** The nine farmers' groups (over 225 farmers) have been grouped together in the form of network and registered to Mandandeupur Municipality. Mandandeupur Municipality encompasses earlier Baluwapati Deupur VDC as its part when local levels (local government) geography was restructured. Registration of farmers' group network has significantly improved farmers' accessibility to local government. Similarly, accessibility to provincial government has been improved through formal registration of nine agriculture group in District Agriculture Development Office (DADO), Dhulikhel. The groups were also linked to Agriculture Service Centre (ASC), Banepa.

Linkages were instrumental for farmers to learn provisions and processes about government's supports on technologies and subsidies. Capitalizing the provisions and processes, farmers were able to receive agriculture implements, plants, and seed either free or in subsidized price (50% subsidized). Four farmers were also connected to mobile phone services of DADO. A mobile phone service named Kisan Sim has been in operation to educate and inform farmers about the weather, agricultural extension service, crop insurance and other matters in a bid to boost productivity and minimize losses from climate hazards. This first ever farmer helpline in Nepal provides high quality and supporting information to farmers, enabling them to make more informed decisions when preparing the ground, planting, managing pests and harvesting. Farmers get early warning information about drought, rainfall and rising temperature through regular SMS so that they can act accordingly. The effectiveness of the system is yet to assess.

The Shramshil Saving and Credit Cooperative Ltd. assisted linking farmer group with Hotel Association of Nagarkot. Arrangements were made for hotel association representatives to attend farmers' group network meeting held in Cooperative Office each month. Cooperative organized a meeting with Hotel Association representative to promote marketing organic vegetables produced by farmers group.

The project had played major role in networking farmers' groups and also linking to government organizations. The Shramshil Saving and Credit Cooperative Ltd. supported housing networks in its premises and also initiated price negotiation of vegetables with hoteliers.

**Preparation and implementation of advocacy and communication plans including extension of messages by radio and other media:** A communication strategy of ASK Nepal has been prepared and implemented instead of a separate for the project. The communication strategies focuses on information on ASK (as described in Twitter, face book, YouTube <https://asknepal.org.np/about-us/>), information on programmes (on-going and phased out projects), audio-visual gallery, ASK board composition and management committees (at HQ

Syangja and Kavre Branch. ASK Nepal website has been upgraded to improve users' access. Organic farming promotional jingles were aired by a Radio Melamchi which is a popular local FM radio. Organic vegetable production promotional documentary and news were aired by Nepal Television (State owned national TV), and ABC News (Privately owned national TV). Five hording boards with organic farming promotional messages have been found maintained in key locations. Forums like Project Steering Committee Meeting (5 events), District Advisory Committee Meeting (1 event), and NGO Coordination Meeting (1 event) were found very useful in spreading information about organic vegetable farming. *Aandhikosusheli* a trimester newsletter has been covering messages of organic vegetable farming. Similarly, organic vegetable farming practices and achievements specific to the project "Organizing for Sustainable Agriculture Practices" has been found uploaded in ASK Nepal Website (<http://asknepal.org.np>). The summary of achievements against IO3 has been presented in Table 5.

The project could establish effective link with government agencies within the district who were supposed to be providing services to project targeted farmers. No evidence found for such link with other likeminded organizations outside Baluwapati Deupur VDC. Though, ASK Nepal has broaden its communication and advocacy plan and sited OSAP as an example for organic vegetable farming, evidence of a separate project specific plan was not available. The extension messages were adequately covered by local radio, national television, and ASK website.

Table 5: Summary of achievements against IO3 output targets

| Key Indicators   | Quantitative output targets  | Achievements  |
|--|--|---|
| <b>1) Linking cooperatives of farmers' group to likeminded organizations outside Baluwapati Deupur VDC</b> |  |   |
| Linked organization  | <ul style="list-style-type: none"> <li>Quantity not defined</li> </ul> | <ul style="list-style-type: none"> <li>A network of nine groups established and registered in Mandandeupur Municipality. Each group represented by its leader farmers and its office housed in Shramshil Cooperative Office in Gairigoan.</li> <li>9 agriculture groups linked to DADO, Dhulikhel though official registration. They were also linked to ASC Banepa.</li> <li>Networks of 9 agriculture group linked to Hotel Association Nagarkot</li> </ul> |

|  |   |  |
|--|---|--|
|  |   | <p>by inviting Hotel Association representative in network monthly meeting.</p> <ul style="list-style-type: none"> <li>• Organic vegetable growers linked with Nagarkot Hotel Association through formal meeting between Shramshil Saving and Credit Cooperative Ltd and Hotel Association representative.</li> <li>• Meetings- NGO coordination meeting (1 event), Project Steering Committee (5 events), District Project Advisory Committee (1 event).</li> </ul>   |
| <p><b>2) Preparation and implementation of advocacy and communication plans including extension of messages by radio and other media</b></p> |   |  |
| Communication and advocacy plan  | <ul style="list-style-type: none"> <li>• Quantitative target not defined</li> </ul> | <ul style="list-style-type: none"> <li>• Communication and Advocacy Strategy of ASK Nepal. Use of Face Book, Twitter, YouTube to publicize elements of strategies.</li> <li>• ASK website upgraded</li> </ul>  |
| Use of communication media, outreach messages  | <ul style="list-style-type: none"> <li>• Quantitative target not defined</li> </ul> | <ul style="list-style-type: none"> <li>• Face book, twitter, YouTube – information on ASK, information on programmes, audio-visual gallery, organic vegetable farming practices and achievements specific to the project “Organizing for Sustainable Agriculture Practices”</li> <li>• Local FM radio (Radio Melamchi) - Organic farming promotional jingles were aired</li> <li>• Television – Organic vegetable production promotional documentary aired by Nepal Television, and ABC News.</li> <li>• Print – Aandhikoshuseli, a trimester newsletter of ASK covered organic vegetable production.</li> <li>• Hoarding board - Organic vegetable promotional hording boards erected in five important locations around Nagarkot.</li> </ul> |

### 3) Efficiency

Efficiency is a measure to evaluate the wise use of project resources to achieve designed outputs. The project actually reached to more than two folds the designed targeted households (225 households of 9 villages against planned to reach 100 households of 4 villages).

Achievements related to other parameters such as agriculture group, cooperative, agriculture input system, sharing and learning system, farmers networking, communication and advocacy have been found at satisfactory level. Achievement details have been discussed in length in earlier sections. Since, quantitative achievements have mostly exceeded the planned output; the comparisons have been based on actual expenditure against planned budget lines. This comparison is limited to disbursements channelled through local implementing partner ASK. The project had spent nearly 85 % of the total planned budget when it achieved all quantified outputs. The actual expenditures in all four budget lines have been found under spent (See table 6). Contrary to most other projects the expenditure on investment and local administration have been found much less than planned. It is thus concluded that the project was extra cautious in fund disbursement. Project could have established few more FFS and fully utilized available fund.

Table 6: Project expenditure against budget

| S. No. | Main budget lines                | Total budget (NPR) | Total expenditure (NPR) | Actual expenditure percentage |
|--------|----------------------------------|--------------------|-------------------------|-------------------------------|
| 1      | Activities                       | 16687275           | 14375415                | 86.15                         |
| 2      | Investments                      | 1421300            | 946867                  | 66.62                         |
| 3      | Local staff                      | 5970273            | 5567238                 | 93.25                         |
| 4      | Local administration             | 805050             | 235210                  | 29.22                         |
| 5      | <b>Project costs total (1-4)</b> | <b>24883898</b>    | <b>21124730</b>         | <b>84.89</b>                  |

Source: ASK Financial Report, 2018

### 4) Impact

Concepts, methods and practical skills of preparation as well as application of agriculture inputs that lead to organic agriculture have been found increased among the participating farmers. The evaluation team found impacts on changing mind-set, health, local economy, and leadership development. Each of them is discussed below in turn.

**Changing mind-set** – Mind-sets of both producer (farmers) and buyers (hoteliers) have been steadily shifting towards organic vegetables despite production hardship for farmers and higher prices for hoteliers. It could not be confirmed for other buyers, who bought from collection centre, whether they really preferred for organic products. The farmers of all nine

agriculture groups have been continuing production and sale of organic vegetables in no cost extension phase even when project presence was nominal. Farmers had sold approximately 15,190 Kgs of organic vegetables either directly to hotels and restaurants or through collection centre from September 2018 to May 2019<sup>20</sup>.

**Health** – Positive impacts both on human health and environmental health have been acknowledged. Vegetable component has been found increased in dietary composition of participating farmers (225 household). Approximately, 35 % of them (before project it was 10 %) have succeeded producing pesticide free vegetables round the year from home gardening. Substitution of synthetic pesticide by organic pesticide not only has reduced health hazard of the farmer but also minimized soil, water and air pollution. Approximately, 56 % farmers (126 household) have substituted synthetic pesticides by organic pesticides. Similarly, substitution of synthetic fertilizer by organic fertilizer has contributed improving soil quality and reduced water and air pollution. Approximately, 73% (165) farmers have substituted synthetic fertilizer equivalent to 2562 Kg of urea, 631 Kg of DAP, and 2774 Kg MOP by organic fertilizer in three years (October 2015 – Sept 2018)<sup>21</sup>.

**Local economy:** Reduced cash drain out by substituting synthetic pesticide and fertilizer by homemade organic fertilizers and pesticides. Additional cash income has been found earned by sale of vegetables. Approximately, 27% farmers (61 farmers) have reported on an average income of Rs.30, 887 per farmer in three years period (October 2015 – September 2018)<sup>22</sup>. Access to hassle free small micro-loan from farmer's groups as well as from Shramshil Saving and Credit Cooperative Ltd has increased. As of June 2019, eight of the nine groups have deposited Rs. 358,102 in cooperative, and Rs 299,245 in their respective groups<sup>23</sup>.

**Leadership development:** Leadership capacity has been found emerged in farmers' group because of various trainings and exposures. As a result, they have been able to access easily to various service providers particularly District Agriculture Development Office and Agriculture Service Center and received technical services and subsidies for agriculture inputs. They could also influence Mandandeupur Municipality to support for organic vegetable farming. It has been found that the municipality in its 2075-2076 (2018-2019) program has included training program on organic oriented vegetable farming and construction of vegetable collection centre in ward 1. Similarly, provisions have been made to subsidize seeds and agriculture implements for organic vegetable farming in ward 2.

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<sup>20</sup> Project end line survey and project record (nine group reporting)

<sup>21</sup> Project Annual Progress Report

<sup>22</sup> Ibid

<sup>23</sup> Information collected from leader farmers



## 5) Sustainability

Focuses of the project were concentrated on building technical skills of the targeted farmers and some of them were also subsidized for implementation of those techniques in their farming practices. Comparison has been made to understand the farmer's acceptance on those techniques and utilization of project subsidies which are key factors of sustainability in terms of continuation of activities, results, and effect of intervention after project termination. Except Agro-forestry, farmers have largely accepted farming techniques and also utilized project subsidies. At least 46 % farmers who participated in training have found practicing techniques they learnt in training. More than 75% households are cultivating and using organic vegetables in their daily life.

The practitioner went up to 113 % in Kitchen Gardening which means some of them also learnt from the neighbouring farms (See Table 7). Even more encouraging is the comparison between subsidies recipients and the practitioners. Again except Agro-forestry, the practitioners exceed subsidies recipients. In case of kitchen gardening it has gone up to 375 %. It clearly indicates that most likely farmers would continue practicing organic vegetable farming methods in future as well.

Table 7: Summary of practicing farmers compared with project input

| S No | Training type                                     | Number participated | No of farmers subsidized | Practicing farmers | % practicing farmers   |                           |
|------|---|---------------------|--------------------------|--------------------|------------------------|---------------------------|
|      |   |                     |                          |                    | Against number trained | Against number subsidized |
| 1    | FYM management training                           | 265                 | 100                      | 123                | 46                     | 123                       |
| 2    | Compost, liquid manure, liquid pesticide training | 198                 | 100                      |                    |                        |                           |
|      | Compost   |                     |                          | 128                | 65                     | 128                       |
|      | Liquid manure                                     |                     |                          | 165                | 83                     | 165                       |
|      | Organic liquid pesticide making training          |                     |                          | 126                | 64                     | 126                       |
| 3    | Kitchen garden training                           | 199                 | 60                       | 225                | 113                    | 375                       |
| 4    | Soil management and seed conservation training    |                     |                          |                    |                        |                           |
|      | Soil sample and treatment (Lime )                 | 119                 | 116                      | 116                | 97                     | 100                       |
|      | Seed conservation                                 | 43                  | 43                       | 22                 | 51                     | 51                        |
| 5    | Commercial vegetable farming training             | 92                  | 40                       | 61                 | 66                     | 153                       |
| 6    | Agro-forestry                                     | 44                  | 20                       | 3                  | 7                      | 15                        |

Source: Project Progress Report, ASK –Nepal

The evaluators have had interaction with Mayors of Mandandeupur Municipality and ward chairpersons of ward 1, 2 and 3. All of them have been found committed to organic agriculture

and expressed willingness to work together in future as well. The mayor informed that the municipality has begun process to develop the entire municipality as organic zone. Municipality has been supporting farmers of ward 1 and 2 for organic vegetable production from fiscal year 2018-2019, and is expected to continue in ward 1 and 2 and expand in other wards as well. It was learned that the municipality has special programme in agriculture and livestock development in all wards for fiscal year 2019/20. The practicing farmers have accepted the organic vegetable farming technologies and implemented. Many of them expressed willingness to expand their farm in near future. Skills of more than 225 farmers in general and those of 9 leader farmers in particular will be great assets for moving organic farming forward. These leaders, in addition to 9 groups' members, have disseminated their knowledge and skill to 39 farmers outside their groups. Similarly, the local staffs trained by project are expected to contribute in sharing information and technologies.

In addition, DADO, ASC and agriculture section of Mandandepur Municipality have been found very supportive to organic agriculture. The Mandandepur Municipality has begun process to strengthen its overall capacity including staffing, equipment, and other facilities. Full-fledged operation of the municipality is expected to deliver better support in future.

All positive indicators discussed above lead towards sustaining activities, effects and results, however, future project support would be instrumental in accelerating processes as well as results and finally to attain organic farming practices at greater scale.

## 6) Participation

Project reach, extent of stakeholder engagement in strategy development and decision making, and confidence on local institutions been considered as key elements for evaluating participation.

**Project reach:** The project reach is evaluated on two themes, 1) Ethnic community directly benefited against overall ethnic community composition of the Baluwapati Deupur VDC, 2) Women directly benefitted against women population proportion in then Baluwapati Deupur VDC.

Majority population of Baluwapati Deupur VDC are Janajati (64.9 %) followed by Brahmin-Chhetri (31.8 %), Dalit (2.8%), and others (0.5%). Of the total 51.1 % are female and remaining 48.9 % male (See table 8).

Table 8: Baluwapati Deupur population by community and gender

| S No | Ethnic Community        | Population |        |       | Percent |
|------|-------------------------|------------|--------|-------|---------|
|      |                         | Male       | Female | Total |         |
| 1    | Janajati                | 1936       | 1970   | 3906  | 64.9    |
| 2    | Brahmin Chhetry         | 909        | 1005   | 1914  | 31.8    |
| 3    | Dalit                   | 84         | 87     | 171   | 2.8     |
| 4    | Others                  | 14         | 18     | 32    | 0.5     |
|      | Total                   | 2943       | 3080   | 6023  |         |
|      | Gender based percentage | 48.9       | 51.1   |       |         |

Source: 2011 Census, District and VDC data

The interventions have been grouped into training and exposure visit, capital formation subsidies, and supply of agriculture inputs. The percentage of Janajati recipients were proportionately higher compared to their population size in all three types of interventions. Percentage of Janajati recipients exceeds 81 % in all interventions compared to 64.9% size. Both Dalit and Brahmin-Chhetry were under represented as recipient (See Table 9).

Table 9: Ethnic community based direct recipients (in %age)

| Interventions                | Ethnic community in percent |            |                 |            |            |            |
|------------------------------|-----------------------------|------------|-----------------|------------|------------|------------|
|                              | Janajati                    |            | Brahmin-Chhetry |            | Dalit      |            |
|                              | Recipients                  | Population | Recipients      | Population | Recipients | Population |
| Training and exposure visit  | 84.9                        | 64.9       | 13.7            | 31.8       | 1.4        | 2.8        |
| Capital formation subsidies  | 86.6                        | 64.9       | 12.6            | 31.8       | 0.8        | 2.8        |
| Supply of agriculture inputs | 81.5                        | 64.9       | 16.4            | 31.8       | 2.1        | 2.8        |

Source: Project Progress Report, ASK Syangja, Kavre Branch.

Female recipients were proportionately less compared to its population size. Capital formation subsidies, and supply of agriculture inputs were utilized by households, therefore, it doesn't matter who received (See table 10). The women participation would have been increased in training and exposure visits not only for enhancing their technical skills but also for developing leadership quality.

Table 10: Gender based direct recipients (in %age)

| Intervention                 | Female in percent |            |           |
|------------------------------|-------------------|------------|-----------|
|                              | Recipients        | Population | Deviation |
| Training and exposure visit  | 36.1              | 51.1       | -15       |
| Capital formation subsidies  | 34.4              | 51.1       | -16.7     |
| Supply of agriculture inputs | 27.7              | 51.1       | -23.4     |

Source: Source: Project Progress Report, ASK Syangja, Kavre Branch.

**Stakeholder engagement in strategy development and decision making:** The extent of stakeholder engagement has been assessed based on processes of village selection, farmer group formation, lead farmer selection, vegetable species selection, seed selection, and recipient selection for subsidies. The project intended promoting sustainable agriculture in Baluapati Deupur VDC intervening through 4 villages. It was challenging to identify 4 most suitable villages from several villages of 9 wards. At inception phase, the project staff in consultation with then VDC secretary identified four villages that could be developed as demonstration areas for entire VDC population. The main criteria were location (spread over covering the VDC and easy for non participating villagers to visit), likeliness of farmers to participate, relatively economically less prosperous community and better access to Nagarkot market. The four villages selected for intervention were Haledee of ward 5, Gaurigaun of ward 1, Sathikuria of ward 4, and Makiabari of ward 7. The farmers' field schools (FFS) were established in these villages under supervision of leader farmers. Later one more FFS was also established in Dhandgaun village.

First one year project worked in these four villages. Farmers of neighbouring villages, inspired by the progresses of these four villages, requested project for similar support. Respecting their request, the project decided to utilize unspent fund to expand its reach to cover remaining wards of the VDC and finally reached to 5 more villages from year two onward.

Project staff drafted criteria for selection of farmers, and leader farmers. Village level meeting were conducted in selected villages in turn, discussed selection criteria, incorporated villagers' opinion then finally endorsed<sup>24</sup>. Same meeting identified farmers, formed farmers' group and selected leader farmer<sup>25</sup>. The VDC secretary was present in such meeting. Similar processes were held for selecting subsidy recipients<sup>26</sup>. The project assessed demand of vegetable species by conducting survey in hotels and restaurants in and around Nagarkot. The survey results were confirmed in a meeting with representatives of hotels and restaurants. Vegetable species selection was mostly guided by the demand and soil and climate suitability. Though project emphasized on use of local seeds but not all seeds were locally available. The project linked farmers to an agro-vet vendor in Bhaktapur who they found dealing also local seeds. Later, some farmers had initiated raising seeds of selected vegetables.

**Confidence on local institution:** The project has heavily relied on local institutions' experiences and strengths particularly that of ASK a local implementing partner. ASK Nepal has been working in the field of developing and strengthening farmers' organizations such as cooperatives and networks. It has long experience on providing various technical trainings, promoting sustainable farming technologies using local resources, participatory process on community

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<sup>24</sup> Selection criteria in Annex 8

<sup>25</sup> List of farmers' group and leader farmers in Annex 9

<sup>26</sup> Selection criteria for subsidy recipients in Annex 8

development, and advocacy in favour of weaker section of the society such as disadvantaged community and women. The project interventions were designed to utilise existing capacity of the partner institution. Adequate attention had been given to develop and strengthen farmer's grass root organizations such as farmers group, cooperatives, and farmers' group networks.

## 5. Lesson Learned

Important learning requiring attention for future project design of similar nature has been presented in following sub-sections.

- The terminologies used in development objective and immediate objectives often created confusion and in some instances contradicted in each other. The future design should avoid use of many buzzwords and also include proper definition or explanation of technical terminologies.
- The numbers of targeted beneficiaries were increased by more than two folds. The decision for increasing beneficiaries came one year after project implementation. Eventually, project supports were unequal for old and new groups and also had to extend one more year on no cost modality. Rigorous exercise on inception phase (3 to 4 months) focusing on cost calculation and farmers' willingness have had avoided unequal support and no cost extension.
- Concept of mobilizing cooperative for supply of agriculture inputs and sale of vegetables did not work to the expected level though some farmers were benefited from crop insurance policy. The cooperative has been dominantly working as micro financing agency for profit. Continuation of collection centre is questionable after project completion.
- Future project has to work on accelerating organic / bio fertilizer, and pesticides production at farm level for minimizing input dependency. Developing some farms for seed production at local level is likely to minimise seed quality related crop failure. Establishing community sale centre known as *Hat Bazar* will be better option for farmers to sale their products. The municipality has to take lead on this initiative. Organizing organic vegetable fair on Hotel Parking area for limited time will be an option to consider.
- Soil tests were carried twice first at baseline, and second after three years of project operation. The soil quality changes could not be assessed because neither consecutive sample were of same sites nor same sets of measurement parameters. Soil test has to be properly planned, location to be recorded using GPS, and same set of parameters to be measured.

- The project information were scattered in various reports and files. Many times, the information was irrelevant, inconsistent, and not sensitive to measurement units. The future project has to develop a detail result based monitoring database system, and train project staff to apply at inception phase.

## 6. Conclusion

Introducing organic vegetable farming methods was a new initiative in Baluwapati VDC. Proximities to Nagarkot, one of Nepal's key tourist's destinations, had big role in finding market for organic products. Trainglen's presence in project targeted villages, prior to this project, greatly contributed building rapport with targeted residents and ultimately project could take off immediate to its inception.

Considering limited duration the project, achievements were highly encouraging; however, many challenges particularly related to marketing remained streamlining. However, hoteliers and restaurant owners in Nagarkot regularly paid premium price for selected products

Farmers were deprived of premium price in general market lacking consumer confidence in organic claim. Organic labelling can address this issue significantly and enter into big market in Bhaktapur and Kathmandu. Organic labelling can be legitimized either by third party certification or by participatory guarantee system. Third party certification process requires going through stringent process both at farm and documentation levels. It will be impractical entering into third party certification process until farmers further specialized in production system and produce much larger volume. Participatory guarantee system could be a viable marketing strategy for future project. It is a locally focused quality assurance system which certifies the producers with active participation of stakeholders<sup>27</sup>. Mandandepur Municipality's strategies for declaring entire municipality as organic agriculture zone could be an excellent opportunity for executing participatory guarantee system.

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<sup>27</sup>[https://en.wikipedia.org/wiki/Participatory\\_Guarantee\\_Systems](https://en.wikipedia.org/wiki/Participatory_Guarantee_Systems)

# **Terms of Reference for External Evaluation of “Organising for sustainable agricultural practices” Kavre, Nepal**

## **Background**

Funded by CISU and initiated in October 2015 this is a joint 3-year project between the Danish NGO Trianglen and the Nepalese NGO ASK.

The project is guided by the following development objective: *Eco-coop and sustainable agriculture groups in 4 villages in BaluwapatiDeupur VDC, Naldum, Kavre District practice and advocate for climate resilient ecological and sustainable agricultural methods in networks with likeminded organisations in Nepal.*

The project design depicts a strategy comprising group formation and technical training and learning as a first phase; and the establishment of a cooperative with agreements with owners of hotels and restaurants in a partly overlapping second phase. Thus, primary stakeholders are farmers in the project area (the supply side) as well as hotel and restaurant owners (the demand side). The project implicitly aims at stimulating and developing both the demand and the supply side. In parallel, contacts and linkages with likeminded projects and organisations would be pursued in order to promote sustainable agriculture concepts and approaches in a wider scale.

The Project Document stipulates that internal reviews were undertaken by the Project Steering Committee at the biannual PSC meetings. A relatively more comprehensive review was carried out (in October 2017) to assess and summarise progress, achievements and lessons learnt. The review addressed perspectives for a continuation of the project beyond October 2018. In addition, as per the project document an external evaluation has to be carried out at the end of the project period for reporting CISU and Social Welfare Council Nepal.

## **Objectives**

The objective of the external evaluation is - to assess and summarize implementation progress, achievements, short-term and medium-term outcome and effects. The evaluations will also highlights major lessons learnt assess the overall project management performance.

## **Scope of work**

The main issues include:

- **Conduct Performance Assessments**

To assess progress towards achieving the project's overall objective and areas of impact; the intermediate goals and associated outputs as specified in the logical framework.

- **Draw Lessons Learned**

To generate lessons learned for the implementation of the project based on the findings and conclusions from the assessment of the project progress, the review will identify lessons learned.

- **Make Future Recommendations**

To develop specific recommendations for continuing or termination of Trinaglen programme in kavre based on the lesson learning.

## **Method**

The evaluation will draw on current monitoring reports, project reports and records, periodic progress reports, interviews with key farmers, political leader, representatives of buyers (hotel and restaurant owners), and ASK staff. The team will make field visits and in-situ interaction with farmers in farmers' field schools.

## **Team**

The Evaluation Team will include two external consultants, i.e. Bhawani P Kharel and Rabin Bogati.

Bhawani Kharel is a forester by profession. He is Bachelor of Science from Tribhuvan University, Nepal, Post Graduate Degree in Forestry from Indian Forestry Institute Deharadun, India. He has Master of Science in Natural Resource Management from Asian Institute of Technology, AIT Bangkok. Mr. Kharel has a professional degree in water resource survey and management from the Netherlands. He has several on the job training in USA, Japan, the Philippines etc. Mr. Kharel has 24 years of experience in Government of Nepal, 3 years in INGOs in Nepal and 4 years in international technical managerial position abroad. He is expert in biodiversity, wetland and community development, excellent trainer at professional and community level. He has experiences in project planning, review and evaluation, long term strategic planning and community development plans.

Mr Kharel as a Team leader will lead the process, visits field sites and conduct interactions and interview with different people in field and office. Analyze and prepare report in consultation with team member.

Rabin Bogati is a Bachelor of Science in agricultural soil conservation and management from Punjab India. He is Master of Science in watershed management from USA. As a team member, he will in consultation with the Trinaglen and ASK management be responsible for all evaluation preparations; and will coordinate data and information collection activities. Take part in field



visits and interactions with different group of persons. Review, analyze reports and records and contribute in report writing.

## **Evaluation Criteria**

In order to achieve precise and reliable evaluation results a general list of study and evaluation criteria as given below has to be followed in the review and the evaluation process. These criteria also form the basis for developing key questions and issues to be used during the evaluation.

### **7) Relevance**

(appropriateness) of the intervention in relation to the priorities of the recipient country; comparison of results against the immediate (operational) and more general objectives (development objective)

How important was the intervention for the target group(s) and/or to what extent has it conformed to their needs and interests?

To what extent did the intervention comply with development policies and development planning of the Donor agency CISU, recipient country and implementing agencies Trianglen/ASK.

Did it make sense to continue the intervention or is it necessary to redesign or stop it for future program design?

### **8) Effectiveness**

(achievement of targets) of the project in terms of the defined objectives; comparison of output against purpose

To what extent were the objectives of the intervention attained?

To what extent was the target groups were reached?

### **9) Efficiency**

(use of resources); comparison of input against output

Was the relation between input of resources and results achieved appropriate and justifiable?

To what extent had individual resources been used economically?

Are there any alternatives for achieving the same results with less input?

### **10) Impact**

(effects) of the intervention on the general situation of the target group or affected parties

positive and negative, intended and unintended effects

short-term, medium-term, long-term effects  
 technical, economic, social, cultural, political, ecological effects

### 11) Sustainability

(durability) of the intervention and its impact

To what extent can activities, results, and effects be expected to continue after donor intervention has ended?

To what extent did the intervention reflect on and take into account factors which, by experience, had a major influence on sustainability like e.g. political support, appropriate technology, environmental soundness/environment protection, socio-cultural aspects, gender equality/women’s empowerment, institutional and management capacity building?

How self-supporting was, in particular, the local counterpart institution?

### 12) Participation

or (shared) responsibilities and ownership

To what extent were stakeholders (target group, beneficiaries, and affected groups) involved in strategy development and decision-making?

To what extent was the intervention designed to rely on local project/program management or to develop the necessary local institutional capacity?

### ***Tentative Itinerary and Activities***

The proposed schedule for the Evaluation Team is as follows:

| <b>Proposed days</b> | <b>Activities</b>  |
|----------------------|--|
| 2-3 days             | The team will collect and review relevant documents/reports related to the project; and prepare a detailed work plan. Reports from ASK Syangja and Branch Office, Kavre  |
| 3 days               | Finalize work plans, in consultation with Trianglen and ASK , including the identification of most appropriate tools to maximize consultation with participants and counterparts, semi-structured interview guides/checklist for discussion.                             |
| 6-7 days             | Field visits and observe in-situe FFS management and operation, Information collection from leader farmers, farmers group executives, staff of cooperative, farmers net-work and field based project staffs etc. Debriefing with project and partners staff in Nagarkot. |

| <b>Proposed days</b>   | <b>Activities</b>   |
|------------------------|---|
| Team work in Kathmandu | <ul style="list-style-type: none"> <li>• Analyze data and prepare draft report. Submit draft evaluation report to Trianglen/ASK</li> <li>• <i>Review of draft report by Trianglen/ASK</i></li> <li>• Evaluation Team receives comments on draft report in a brief interactive session, which constitutes of a presentation by the Team and feedback</li> <li>• The team incorporates feedback and submits the final report</li> </ul> |

### ***Logistic Support and Contact Persons***

***Trianglen*** will avail an information package comprising all relevant materials related to the project to the Evaluation Team prior to start of the study. The Evaluation Team is expected to acquaint them selves with these materials prior to start of the study. ASK will facilitate the Team's work through the provision of (a) arrangements of meetings and project visits and (b) arrangements of transport in project area.

### **Lead persons**

- Christian Krusem Denamrk, Trinagken Chairperson
- Rukum Dutta Sharma, ASK Chairperson, Synagja
- Hari P Dhakal, Executive direcror ASK and Programme Coordinator Trinaglen
- Badri Maka, ASK Kavre Branch Manager, 9851043518, badrimaka1@gmail.com

***Contact Persons and Details:*** Badri Maka, ASK Kavre Manager will be the prime responsible/contact persons for coordinating the whole process, including communication. Besides, Tara Tamanbg and Sunita Tamanbg in Nagarkot village, can also be contacted for further support/logistics/information.

| <b>Name</b>    | <b>Address</b> | <b>Phone</b> | <b>Email</b>             |
|----------------|----------------|--------------|--------------------------|
| Tara Tamang    | Deupur Mandan  | 9843646861   | taratamang2052@gmail.com |
| Sunita Tamanag | Municipality   | 9803946774   | sunighising11@ gmail.com |

### **Deliverables**

- Draft Report – not exceeding 10 -15 pages excl. annexes Date
- Final Report –not exceeding 15 -20 pages excl. annexes Date

## **Annex 2: Curriculum Vitae (CV) of Team Leader**

### **CURRICULUM VITAE (CV) FOR LEAD CONSULTANT**

**Proposed Position:**Community Development and NRM Expert – Team Leader

**Name of the consultant:**Mr. Bhawani Prasad Kharel

**Profession:** Consultant (community development, Forestry and Natural Resources Management, Project planning and evaluation)

#### **Membership in Professional Societies:**

- General Member, Nepal Forester’s Association (NFA), Nepal
- General Member, AIT Alumni Association, Bangkok
- General Member , AIT Alumni Association Nepal Chapter, Nepal
- General Member, Soil and Water Conservation Society (SOWCOS), Nepal

#### **Detailed Tasks Assigned:**

- Review the available documents, reports (Trianglen, ASK) consists of identifying gaps in terms of community development and organic farming practices through rapid stocktaking and review of relevant plans, policies conventions and reports and series of consultation with community people, farmers, government people and business persons
- Take lead in contribution and conducting in stakeholder consultation, farmers interactions
- Prepare the draft report by incorporating suggestions and need of Triangle

#### **Key Qualifications:**

More than 38 years of professional experience in Natural Resource Management including soil conservation and watershed management, bio-diversity conservation, river-basin management. He has practical experiences onpreparation of guidelines, manuals, projects and plans; Development of Training Packages and Training Implementation; Monitoring and Evaluation; Strategic Planning; Project planning, design and management on natural resources management. Facilitate in various training, workshops, and seminars. Published numerous articles and presented paper in national and international conference related on biodiversity and soil and watershed management. He worked as International Team Leader in EU funded NRM project in Afghanistan.

#### **Other Trainings:**

- Practical Case Studies on Sustainable Forest Management (August 13-November 2, 2002), Forestry Training Institute, Takao, Japan.
- Refresher Course on the Analysis and (3d) Cartographic Presentation of Soil Data (August 30 - September 17, 1999), International Institute for Aerospace Surveys and Earth Sciences (ITC) and Central Department of Geography, Tribhuvan University, Kathmandu

- Training of Trainers for Bioengineering Course (June 30 - July 12, 1997), Department of Roads, Kathmandu, Nepal
- Bioengineering for Slope Stabilization (March 24 - April 5 and June 9 - June 21, 1996), Department of Roads, Kathmandu, Nepal
- Training Needs Assessment and Curriculum Design (November 10 -21, 1991), Ministry of Forest and Environment, Kathmandu, Nepal
- Planning Conservation Education Campaigns (November 9 - 13, 1987), UNDP Asia and Pacific Programme for Development Training and Communication Planning, Kathmandu, Nepal

#### Education:

1999 Master of Science in Remote Sensing and GIS, Asian Institute of Technology (AIT), Bangkok

1990 Post Graduate Diploma in Water Resources Surveys with emphasis on Watershed Management and Conservation, International Institute for Aerospace Survey and Earth Sciences (ITC), The Netherlands

1981 Post Graduate Diploma in Forestry, Indian Forest College, Dehradun, India.

1978 Bachelor of Science, Tribhuvan University, Nepal

#### Employment Record:

- **Year 2017-18: Resource Management Planner, President Chure Tarai Madesh Conservation and Development Board-** Preparation of Guidelines for River System Integrated Resource Management Planning
- **Year 2015-16; Watershed Management Expert, President Chure Tarai Madesh Conservation and Development Board -** Preparation of Master Plan for Chure Area Conservation and Management
- **Year 2014;** NRM Expert "National Conservation Strategy" development, team member for Government of Nepal National Planning Commission and IUCN Nepal.
- **July to December 2014: Theme Leader of Forestry Sector** in consulting team of experts formulated by IUCN Nepal for preparation of National Strategic Framework for Nature Conservation (NSFNC). IUCN provided technical services to National Planning Commission (NPC) Nepal for preparation of NSFNC.
- **March 2014 to June 2014: Watershed Management Expert** in consulting team of experts formulated by IUCN Nepal for preparation of National Strategic Framework for Nature Conservation (NSFNC). IUCN provided technical services to National Planning Commission (NPC) Nepal for preparation of NSFNC.
- **April-Dec 2013: Team Leader , Green Governance Nepal,** for Assessment of Bio-physical and Socio-economic Conditions and Preparation of Integrated Watershed Management Plans of Critical Sub-watershed Areas in Gandak Basin" commissioned by WWF/CARE
- **January- June 2013: IUCN Nepal,** consultant to support to development of a project proposal for integrated natural resource conservation and management of Churia Region in Nepal
- **July 2011 – Dec 2012- Team Leader; Upper Catchment Rehabilitation and Management Phase II (UCRAM II), and Participatory Watershed Management (PWM), Badakhshan, Afghanistan ([www.Afghanaid.org.uk](http://www.Afghanaid.org.uk)), Afghanistan**

Panj Amu River Basin Program funded by EC. UCRAM II is the follow up phase of UCRAM and PWM operates in three watersheds: Keshem, Teshkan and Darayem. The focus of the projects is to assist beneficiaries to manage forests, rangelands, sloping agriculture lands and farmers managed irrigation

systems. Both projects adhere to community based natural resource management (CBNRM) approach as principle implementation strategy.

- **July 2008 - June 2011: Team Leader; Upper Catchment Rehabilitation and Management (UCRAM) in Badakshan, Afghanistan ([www.Afgghanaid.org.uk](http://www.Afgghanaid.org.uk)), Afghanistan;**  
Overall management of project- staff, program, budget and donor reporting; Re-designed project logical framework (LFA), developed implementation strategy and required guidelines. This project was an integral component of Amu River basin Program funded by EC and focuses on sustainable management of forests and rangelands through community based natural resource management (CBNRM) approach. This includes establishment and capacitating forest and rangeland associations, preparing resource management plan and their implementation. Besides common resource management it also supported farmers to manage degraded arid lands.
- **July 2007 - June 2008: Team Leader; Ecosystem Management Unit, IUCN Nepal;**  
Programme development, delivery and reporting. Being unit head responsible for providing programmatic leadership, guidance to project managers, representation in various fora and transfer of information and knowledge within IUCN Networks and beyond. Ongoing projects were landscape governance focusing on critical watershed in *Siwaliks*, Conservation and Sustainable use of wetlands, Benefit sharing of NTFPs and Promoting Community Conserved Conservation Area in Middle Mountain.
- **August 2005 - June 2007: Senior Program Officer; Ecosystem and Sustainable Livelihood; IUCN Nepal;**  
Programme and project implementation, Preparation of project logical frame work, preparation of guidelines for project implementation, capacity development of the project staff, representation in project related meetings, workshops, carry out studies related to forest, bio-diversity and water.
- **May 2000 - July 2005: Planning Officer; Department of Soil Conservation and Watershed Management (DSCWM);**  
Project designing, proposal writing, supporting projects and districts in preparing annual plans and budgets. The DSCWM had number of donor assisted projects such as NARMSAP supported by Danida, BIWMP supported by EC, ChWMP supported by CARE, ChFDP supported by GTZ, RCIW supported by WFP/GTZ, LFP-SCWM supported by DFID, SSMP supported by SDC, CDFWCP supported by JICA, NACRMLP supported by AusAID and BISEP-ST supported by SNV. As a planning officer, I had supported these projects in planning and implementation aspects through field visits as well as by providing inputs in technical and evaluation reports. Coordination and liaison support were also provided to these projects as and when needed.
- **May 2004- August 2004: Development of Three Years Strategic Plan for RCIW-SCWM Programme;**  
Developed three years strategic plan through a consultative process involving representatives of all prime stakeholders. Rural Community Infrastructure Works (RCIW) is a joint venture of HMG, World Food Program (WFP) and GTZ. Ministry of Local Development was the lead agency from the Government side. The District Development Committees, District Soil Conservation Offices and village Development Committees collaborated in implementation of Soil Conservation and Watershed Mangement Program. ZTG supported developing this program.
- **May 2003 - April 2004: Training of Trainers for Advocacy;** Designed and developed Training of Trainer Manual for Advocacy and Advocacy Training Manual for community groups. Nine trainings were implemented for local level partner NGO of SAMARPAN program. Similarly, five refresher trainings were also conducted. Approximately 225 trainees were benefitted from the training. SAMARPAN is a USAid funded project jointly implemented by four international NGO: CARE Nepal, Winrock International, CEDPA and PACT.

- **May 2004–August 2004: Specialized Advocacy Training for NGO Federation at district level;** Contributed in designing and developing training material. Developed training manual and worked as one of the trainer in delivering training to participants of the district level FECOFUN members and Irrigation Water User Association members who are partners of SAMARPAN program. SAMARPAN was a USAid funded project jointly implemented by four international NGO: CARE Nepal, Winrock International, CEDPA and PACT. Two training events were conducted and 125 participants benefited from it.
- **January 2004- April 2004: Capacity Development at District and Local Level for TK Documentation;** Preparation of Training Manual and Training materials to train district as well as local level resource person selected for Biological resources and Traditional Knowledge documentation. The manuals were drafted and trainings were conducted accordingly. It was an IUCN supported project jointly undertaken by Ministry of Forests and Soil Conservation and IUCN.
- **Year 2003: Churia Watershed Management Main Phase Design:** Worked in a team to develop main phase Project Planning Matrix of Churia Watershed Management Project. It was a further elaboration of the Churia Watershed Management Project, Document that was prepared in 2000. The project was being jointly managed by the Department of Soil Conservation and Watershed Management and CARE International in Nepal.
- **Year 2002: 1) Forestry Specialist; Greenery Development Special Program, A Strategic Plan of Dailekh District;** Worked in a team of three consultants for preparing a strategic plan for District Development Committee Dailekh. This was an unique activity jointly undertaken by Soil and Water Conservation Society Nepal and the National Labour Academy Nepal. 2) **Principle Consultant; Management Plan for the Bagdwar and Chanjo Sub-watershed of Chulachuli Village Development Committee, Illam, 3) Consultant; Nepal Australia Community Resource Management and Livelihood Project Design;** Worked in a team to develop a project document to seek funding from the Australian Government. The designing process included stakeholder consultation at village, district and center level. The document was jointly developed by the Ministry of Forests and Soil Conservation and The AusAID. The project document was accepted by HMG/N and the Australian Government thus was being implemented in Kavrepalanchowk and Sindhupalchwok districts.
- **September 1999 - April 2000: Soil Conservation Officer, Department of Soil Conservation and Watershed Management (DSCWM).** Besides routine job worked as Team Member for preparation of Churia Watershed Management Plan, which was jointly implemented by DSCWM and CARE International in Nepal.
- **September 1995- December 1997: Chief of Monitoring and Evaluation Section, Department of Soil Conservation and Watershed Management (DSCWM)-** Tracking progress of program and projects within DSCWM. Reporting to Ministry of Forest and Soil Conservation as well as Planning Commission of Nepal.
- **January- April 1995:** Environmental Specialist, Irrigation Line of Credit Project (ILC) under Department of Irrigation
- **Year 1994: Training Expert, Karnali Bheri Integrated Rural Development Project, Surkhet,** Community Forestry Skill Development Training conducted in Surkhet, Dailekh and Jumla.
- **August 1990 – August 1991 and Sept 1993- August 1995: Chief of Management Section, Department of Soil Conservation and Watershed Management,** various guidelines and manuals were developed.
- **September 1991-August 1993:** Chief of Curriculum Designing and Material Development Section; Training Division, Ministry of forest and Soil Conservation, Kathmandu
- **January 1985 - August 1989: Project Manager,** Begnas Tal Rupa Tal Watershed Management Project, Kaski, Pokhara
- **August 1984- December 1985: Project In-charge;** Mahakali Integrated Rural development, Soil Conservation Project, Baitadi. (Assisted by World Bank)
- **December 1983- July 1984: Project Chief;** Phewa Tal Watershed Conservation Project, Kaski, Pokhara. (Assisted by UNDP/FAO)
- **May 1981 - November 1983:** In charge of forestry activities; Phewa Tal Watershed Conservation Project, Kaski , Pokhara





### Annex 3 CV of climate resilient agriculture expert

#### CURRICULUM VITAE (CV) Climate change and agricultural system expert

1. **Name:** Rabin Bogati
2. **Address:** 1326 Ganesh Man Singh Path West, Kathmandu Municipality, Ward No 14
3. **Contact No:** 977-1-4273162 (Home), 98510-47149 (Cell)
4. **E-mail Address:** [rabin.bogati@gmail.com](mailto:rabin.bogati@gmail.com)

#### Academic Qualification:

- 1986 Master of Science, Natural Resources Management, School of Renewable Natural Resource, the University of Arizona, Tucson, Arizona, USA
- 1978 B. Sc. Agric (Hons.), Agricultural Soil and Water Conservation and Management. Punjab Agriculture University, Punjab, India
- 1974 B. Sc. Hydrology and Meteorology, Tri Chandra College, TU (not completed)

#### Expertise:

- Climate resilient agriculture technology and farming system; mainstreaming climate change in local, community and landscape level planning
- Natural resource management - watershed prioritization, integrated natural resource planning and management, sub-watershed management plan preparation
- Community vulnerability and capacity assessment
- Water induced disaster risk reduction and management and emergency preparedness
- Climate risk management, community based adaptation and risk reduction programmes and initiatives

#### Professional Experience:

23 Year experience in Government of Nepal, Ministry of Forests and Soil Conservation at district, Programme and Central level, seven years' experience as Programme Coordinator in International Development Agency (CARE International in Nepal) and nine years experiences as free-lance consultant in the area of climate smart watershed resources planning and management, disaster risk management, coordination and networking.

#### **Experience in area of Climate change, disaster risk management, NRM planning for last 10 years**

- i. Name of Project: Developing climate resilient livelihoods in the vulnerable watershed in Nepal  
National Consultant - Climate Change Adaptation and Watershed Restoration Specialist, Government of Nepal, Ministry of Forests and Soil Conservation, UNDP (2017-18), climate change adaptation project document preparation (Dudh Koshi Watershed) for GEF funding, document is in UNDP and DSCWM.

- ii. Name of Project: Enhancing Climate Resilience of Vulnerable Communities and Ecosystems in the Gandaki River Basin, Watershed Management and Climate Change Specialist, Government of Nepal, Ministry of Forests and Soil Conservation, IUCN 2017, climate change adaptation project document preparation for GCF funding, document is in IUCN and MFSC.
- iii. Name of Project: Master Plan Development for Chure Area Conservation and Management- Team Member and Climate Resilient Agriculture and Disaster Risk Management Expert, President Chure Tarai Madesh Conservation Development Board, 2015-2016 (Master Plan, 29 Districts and 36 River System Plans, www.chureboard.gov.np).
- iv. Name of Project: Bagmati Integrated Watershed Management Programme, team member and watershed management expert, 2015, ADB and Government of Nepal.
- v. Name of Project: Assessment of Bio-physical and Socio-economic Conditions and Preparation of Integrated Watershed Management Plans of Critical Sub-watershed Areas for Hariyo Ban Program of WWF/CARE, April 2013 – Dec 2013, Watershed and Strategic Planning Expert (Document 5 ISWMP in 4 districts available in CARE, WWF and DSCWM).
- vi. Name of Project: Churia and Watershed Management Expert in Programme Document Development for the President Rastrapati Chure Conservation Programme (RCCP); Government of Nepal, January – July 2013. Document available at MFSC.
- vii. Name of Project: Watershed Management Consultant in Supporting Development of a Project Proposal for Integrated Natural Resource Conservation and Management of Churia Region in Nepal (IUCN/Ministry of Forests and Soil Conservation) January- August 2013.
- viii. Name of Project: Deputy Team Leader and Watershed Expert in Building Climate Resilience of Watersheds in Mountain Eco-Regions, PPTA, ADB Funded (April 2012 to Jan 2013). Document is available in DSCWM and ADB.
- ix. Name of project: Nepal Climate Public Expenditure and Institutional Review, National Planning Commission/UNDP Climate Change and Disaster Risk Reduction Consultant (Policy and institution analysis- a team of International and national consults); July- November 2011. Document is available in NPC and UNDP.
- x. Name of Project: Churia Action Team – Implementation Framework for Raptrapati Churia Conservation Programme (RCCP) (July 2011).
- xi. Name of Project: Deputy Team Leader and Watershed Management Expert in Watershed Management Plan for Churia Region Cluster IV (Dang, Surkhet, Kailali, Kanchanpur and Dedeldhura); (DSCWM)/Alliance Nepal; April-August 2010. Document is in DSCWM.

**Professional Work Affiliation:**

|   |  |
|---|--|
| July 2008 to date<br><b>Freelance Consultant and Social Service</b> | Freelance Consultant on - Natural Resource Management, Watershed Management Planning, Climate Change and Disaster Risk Reduction and Chure Conservation and Management: Integrated natural resource management plan development, strategy formulation, climate smart watershed, climate vulnerability and policy analysis. |
|   | Member Executive Board, Local Initiatives for Biodiversity, Research and Development (LI-BIRD): Support to strategic planning and management to LI-BIRD, strategic programme monitoring, Governance (social audit)   |

|  |   |
|--|---|
| <p>July 2001 – June 2008</p> <p><b>CARE International in Nepal</b></p> | <ul style="list-style-type: none"> <li>• Programme Coordinator, Churia Area Program, Disaster Risk Management, Governance and Advocacy (2005-08)</li> <li>• Watershed Sector Coordinator – Upper Andhikhola WSM Project, Jalad Watershed Management Project, Churia Watershed Management Project, Post Project Support (2001-05)</li> </ul> <p>Manage and Oversee projects, project proposal development, lead and managed project and programme evaluations, support project managers in project intervention and coordination, support in programme strategy formulation, Coordination reporting and representation. Initiated community based disaster risk management project (Janakpur area and Far-West) from ECHO, DIPICHO support in CARE Nepal. Managed livelihood provisions and rehabilitation in post disaster situation.</p> |
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| <p><b>Government of Nepal</b></p> | <p><b>Department of Soil Conservation and Watershed Management</b></p> <ul style="list-style-type: none"> <li>• National Project Manager, Natural Resource Management Sector Assistance Programme and Nepal-Denmark Watershed Management Project (1998-01)</li> </ul> <p>Responsible for: supporting and coaching in planning and development of community based plan preparation, project management and supervision, and strategic direction for project implementation; Institutionalized the concept and process of soil conservation and watershed management through community development in 20 hill districts; assisted in formulating Community Development Groups from all households within each social unit or community</p> <ul style="list-style-type: none"> <li>• Planning and Monitoring Chief (1991-98)</li> </ul> <p>Contributed in preparing plan, policy, implementation strategy, legislative amendments and institutional set up for Department in line with NPC periodic plan; Prepared technical and administrative guidelines and implementation procedures for watershed planning, conservation education, management and training support to district level soil conservation and watershed management projects.</p> <p><b>Ministry of Forests and Soil Conservation, Forestry Sector Master Plan</b></p> <ul style="list-style-type: none"> <li>• Watershed Planning Officer (1986-90)</li> </ul> <p>Reviewed and analyzed the background papers from the thematic consultants; Conducted institutional assessment of organizations and consulting with the Government officials; Developed proposals and formulated an integrated 25 years programme for SCWM programme, Led finalizing and familiarizing the SCWM Plan; Prepared and designed a set of logical frameworks to plan and monitor SCWM programme.</p> <ul style="list-style-type: none"> <li>• Project Chief, Integrated Rural Development Programme (1979-84)</li> </ul> <p>Prepared operational plans for land use development and watershed area treatment; Planned annual programs, prepared design and estimates and implemented activities with local communities with endorsement from District Development authorities; Coordinated implementation of project activities,</p> |
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|  |   |
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|  | prepared budgets, monitored expenditure and reimbursement claims, coordinated feasibility surveys of project sites and people's participation |
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**References:**

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| <p><b>Mr. Prakash Mathema</b><br/> Secretary,<br/> Ministry of Agriculture and Livestock<br/> Development, Singha Durbar, Kathmandu<br/> Email: mathema7@yahoo.com</p> | <p><b>Mr. Surya Bahadur Thapa</b><br/> Chair<br/> DPNet – Disaster Preparedness Network Nepal<br/> Phone/ Fax: 015201497<br/> Email: info@fscnepal.org</p> |
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#### Annex 4: List of persons met and /or consulted

- 1) Krishna Prasad Banstola, Haledi
- 2) Manayama Banstakoti, Haledi
- 3) Krishna Bahadur Gurung, Gairigaun
- 4) Kamal Singh, Gairigaun
- 5) Bir Bahadur Tamang, Makaibari
- 6) Lila Bahadur Tamang, Makaibari
- 7) Damber Bahadur Tamang, Makaibari
- 8) Parbati Gurung, Sathikuria
- 9) Aite Tamang, Gairigaun
- 10) Shiva Bahadur Tamang, Gairigaun
- 11) Shukharam Tamang, Baluwapati
- 12) Shova Tamang, Dhandagaun (FFS)
- 13) Prem Tamaang, Health Centre, Dhandagaun
- 14) Himal Tamang, Nayagaun 3
- 15) Sushil Tamang, Nayagaun 3
- 16) Shiva Prasad Bajghain, Nayagaun 3
- 17) Shanta B Tamang, Nayagaun 3
- 18) Rahar Singh Tamang, ward 4 Kunta
- 19) Kedarnath Parajuli, ward 4
- 20) Khadga Bahadur Purakoti, ward 4

#### **Leader farmers and Cooperative**

- 1) Dilman Tamang, Chair Cooperative, ward 1
- 2) Purna B Tamang, Secretary cooperative and Leader farmer Gairigaun, ward 1
- 3) Basu Banstakoti, Leader farmer, Haledi. Ward 1
- 4) Arjun Banstakoti, Chairperson, Haledi farmers group, Ward 1 (FFS)
- 5) Samjhana Tamang, Leader farmer, Chapgoan ward 1
- 6) Sarita Tamang, Leader farmer, Makaibari ward 2 (FFS)
- 7) Yam bahadur Gurung, leader farmer, Sathikuria, ward 2 (FFS)
- 8) Dhana bahadur Tamang, Leader farmer, Dhandagaun, ward 1
- 9) Santa Bahadur Gurung, Farmers Network Chairperson

#### **Political leaders and staff**

- 1) Tok Bahadur Tamang, Mayor, Mandandeupur Municipality
- 2) Laxman Banstakoti, Ward no 1 Chairperson
- 3) Jhalak Bahadur Tamang, Ward no 3, Acting Chairperson
- 4) Satya Singh Tamang, Ex VDC chair and progressive farmer, Nayagaun
- 5) Bhuwan Prasad Bajgain, ward 4 chairperson

- 6) Krishna prasad Bajghain, ward 4 member
- 7) Manoj Adhikari, Ward secretary ward 3 and 4
- 8) Rita Ghimire, office assistant, ward 4

**Project staff (Trinaglen/ASK Kavre)**

- 1) Badri Maka, Kavre Manager
- 2) Sunita Tamang, Social Mobilizer, Organic agriculture project
- 3) Tara Tamang, Social Mobilizer, Trinaglen/ASK
- 4) Hari Dhakal, ASK-Nepal Programme Director
- 5) Asmita Poudel, Ex-Project Manager, OSAP Project, Kavre
- 6) Yadu Poudel, Field Manager, OASP, Kavre

## Annex 5: Field notes summarizing farmers' responses

Bhawani Prasad Kharel

**Field Visit Date: June 4, 2019**

Farmer: Haledi Farmer Group, ward 1

Farmers Present in Group Discussion

1. Arjun Bastakoti
  2. Uttam Bastakoti (Husband of Sabita Bastakoti)
  3. Kiran Bastakoti
  4. Badri Bastakoti
  5. Kamala Bastakoti proxy of Baburam Bastakoti
  6. Durga Lamsal
  7. Sangita Bastakoti
1. The group composed of 30 members in the beginning and 25 remained at present. The dropout mainly caused by none availability of suitable land for vegetable farming. One of them is Arab returnee.
  2. Understanding of Organic Agriculture: Cropping system free from application of chemical fertilizers and chemical pesticides. Application of Urea and DAP has been normal practice of agriculture.
  3. Cropping pattern (existing): Paddy – Maize/Millet – wheat/Potato. Application of Chemical fertilizer in every crop. They have changed the cropping pattern to: Either Paddy – Maize/Potato- Vegetable or Paddy –Wheat – Potato. Influenced by Organic Farming method they have been mixing Chemical fertilizer with farmyard manure in cereal crops and only organic fertilizer in vegetable crops.
  4. Observed Buffalo urine collection arrangement and shed for farmyard manure management.
  5. They are still using pesticides for potato and tomato. They have experienced significant reduction of cereal production when stopped using chemical fertilizer and pesticides. Only a slight reduction in vegetables. However the production loss have been compensated by reduced expenses on purchase of chemical fertilizer and pesticides.
  6. The project initiated with vegetable farming, farmyard management and homemade bio-pesticides. They realized that organic vegetables tasted better and had health benefit thus initiated in some parts of their land as trial.
  7. The practicing farmers generally have mental agriculture development plan.
  8. Vegetable seeds generally comes from Bhaktapur district. They could also get it from the cooperative where their group is also a member. They have not insurances either the farm size is too small or the process is cumbersome.
  9. Some of them are also using insect trap. They experienced that the effect of bio-pesticides don't last long. It does not kill insect rather repels. Once the smell is gone they come back to the field.
  10. Marketing has been a challenge, the collection center is not functioning to the mark they expect. Some time they also sell their product on street. No premium price for organic product, they have to compete with other products. They have found the benefit and committed to continue.
  11. They would upscale it and looking for more durable structure for tunnel making. Would like to have iron structure instead of bamboo which lasts for 20 years.
  12. They regularly save Rs.100 /member/month. They lend it to the needy member and charge 18% interest. The maximum lending period is six months. They have approximately Rs.110,000 saved so far.

13. They expect plastic pipes from the new project which will benefit them increasing productivity.

**Field Visit Date: June 5, 2019**

**Farmer : Sarita, Ward 2**

1. She attended practical training about Organic farming in FFS run by Dilman in Baluwapani ward 1.
2. I observed buffalo urine collection tank and compost pit in her farm, which is also FFS
3. She also prepares bio-pesticides. The bio-pesticide raw material she normally includes: 1) *Tite Pati* (artmisia), 2) *Banmara*, 3) *Ganja* (Mariana), 4) *Asuro* (adatoda vasica), 5) *Neem* 5) Garlic, 6) Onion, 7) Chilly, 8) Buffalo Urine and 9) Water. She said at least 6 different plant materials are required for making bio-pesticide, which she learned from training.
4. She runs Farmer Field School focusing on Cauliflower.
5. She has been testing and observing three farming systems simultaneously: a) Organic, b) IPM (Integrated Pest Management), c) local / traditional. IPM gives the highest yield. Organic and local almost equal.
6. 22 farmers have been affiliated to her FFS
7. Garlic and Cauliflower were in her farm.
8. She has tomato nursery. *Srijana* is the variety she is using to raise seedlings. It is a hybrid variety developed in Nepal. It cost Rs. 700 / 5 gm.
9. Before getting affiliated to organic farming group she only raised lettuce and local tomato in small scale for household consumption. Now she has been running commercial organic vegetable farm in 2 *ropanies* of land.
10. In the earlier stage of organic farming she carried products on her back (*Doko- bamboo basket made as backpack*), now it is sent to collection center. Male member (probably her brother or her husband's brother transport to collection center).
11. Group saving Rs.100 / month, 23 members regularly contribute. Based on group decision the saved money is lent to individual member for promoting vegetable farming with an interest rate of 14% per annum.
12. After switched to organic farming she stopped buying chemical fertilizer and pesticide. Instead she sometime buys organic pesticides for tomato raised in tunnel. It costs Rs.800/bottle and is enough to spray 8 to 9 times in a tunnel. The size of the tunnel is 5m\*12m. It is good for 80 tomato plants. Her last year harvest was 600-700 kg which she sold for 27-28 K.
13. Whatever new techniques she learnt in FFS, she first tested in small scale before applying.

**Field Visit Date: June 5, 2019**

**Farmer : Yam Bahdur Gurung and Parbati Gurung, Laligurans Farmers Group, Ward 2**

1. While formed group, there were 27 members, which now retained 24.
2. Their understanding of Organic Farming: None use of chemical fertilizer and pesticide.
3. The production of vegetables in organic method is 80% compared to existing methods (use of chemical fertilizer and pesticides). Organic vegetables taste better and can be stored for longer period.
4. Before organic farming they were growing Mustard greens, Potato, onion and garlic for household consumption. At present (organic farming), in addition to earlier crops they have added



cauliflower, cabbage, eggplant, green peppers (various types), radish, tomato, garden cress and spinach.

5. The project staff came and initiated forming groups with the objective of improving farmyard manure management and organic farming. Households affiliated to this group have also been receiving core project fund (5000 cr /annum).
6. Though there existed several groups formed earlier by other organizations such as women development group, leasehold forestry group, community forestry groups and agriculture cooperatives where many farmers of the Laligurans Agriculture groups were affiliated. Probably those groups could also be mobilized for organic farming as well but no one talked about.
7. Agriculture Development Plan: They have mental plan. They have targeted selling cauliflower in coming *Dashain* (Nepali festival) to fetch good price and working back ward beginning market to production. They don't have book keeping system in place but are confident that they are making good income.
8. Cropping pattern:
  - a. Earlier: Maize – Potato
  - b. Now some of the maize farm converted to: Radish – Cauliflower/Cabbage. Tomatoes are separately grown in plastic tunnel.
  - c. No change in the paddy field
9. Their groups has been member of the Shramshil Cooperative and depositing at least Rs.1500 /month. The cooperative has provision for agriculture loan and also sells chemical fertilizer which they can use in their farmlands which are not part of organic farm. The farmers have partially converted their land into organic farm. The FFS focuses on cauliflower from nursery to planting and harvesting. All 24 famers have participated.
10. They have been practicing all three system simultaneously a) Traditional b) Integrated Pest Management – IPM, and c) Organic. They have found IPM production the highest. But factoring investment the net income between IPM and organic more or less same. The traditional produces lowest.
11. They have been selling vegetables either at Hotels in Nagarkot or Collection center.
12. Approximately 15 out of 24 have been selling their products in market and remaining uses for household consumption. Six of them (Ramesh, Rabin, Maila, Rojina and Chandra Bahadur) are doing very good both in production and sell out.
13. The first lot plastic tunnel was fully subsidized by the project. The second lot half subsidized by Agriculture Service Center (Government Office). They have also received small tractor subsidized half from Agriculture Service center. The full price of tractor is 54 K, whereas Gurung family paid 27 K. The project assisted them linking with service center.
14. Bio-pesticide which they prepared consisted of following plant materials as row materials. a) Agave, b) Neem (Neem is tree), c) Ashuro (it is a shrub), d) Bojho (sweat flag – *Acorus calamus*), e) Chilly, f) Garlic, g) Tite Pati (*Artemisia*), h) Sisnu (Stinging Nettle), i) Bakaino (it is a tree), j) Tobacco leaf, k) Cactus, l) Banmara (invasive shrub), m) Khirro (Woolly dyeing roseby – *wrightia arborea*), n) Onion.
15. Their products are easily accepted with reasonable price in hotels: Chautari, Bhangeri and MistiK. General customer go for better look and don't want to pay good for organic products.
16. Cucumber, Sponge Guard, Bean, and Squash plants were seen in the farm and will take one month to go to market.
17. Liquid manure needs a) rice bran, b) Oil cake, c) EM (Microbial inoculant), d) Unrefined Sugar, e) Buffalo urine. For 50 liters of liquid manure:

- a. 3 Kg rice bran
  - b. 3 Kg oil cake
  - c. 20 ml EM
  - d. 3 Kg unrefined sugar
  - e. 20 liters urine, fill remaining part by water. The container has to be kept in shade and keep steering every 2 to 3 days and gets ready in a month. Use liquid manure mixing 1:10 (manure and water) for young plant. As plant grows use less water.
18. Urine mixed with water 1:5-8 is good to remedy Tomato blast.

**Field Visit Date: June 5, 2019**

**Farmer: Purna Tamang , Ward 1 (Interviewed in Hotel Chautari)**

1. FFS focused in Cauliflower
2. Understanding sustainable agriculture: Conversion from subsistence to commercial
3. Understanding of Organic agriculture: Switching from use of chemical fertilizer and pesticides into bio-fertilizer and bio-pesticides.
4. He has been adapting organic agriculture since 3 years and has 95% trust on organic methods.
5. The organic agriculture has benefits on health and environment. Low inputs and also fetches good price from the customized buyers. His customized buyers include Hotel Chautari, Universe and Peaceful cottage. They have been paying 20-25 % higher than the collection center. Collection center pays same price for organic and inorganic products. He has 2 ropanis of land for organic vegetables. Except land allocated for organic vegetables the crop pattern: a) Paddy – Wheat – Maize b) Maize- Millet / Potato c) vegetable farm. Veg-veg-veg. Dominant crop Cauliflower and Cabbage. Tomatoes grown in plastic tunnel.
6. Contact from ASK staff was the turning point for him to start vegetable farming. He participated in number of training that include a) Farmyard manure management, b) Composting, c) Bio-pesticides, d) Backyard farming, e) Commercial vegetable farming, f) Agroforestry, g) cooperative management. Among all he ranked Commercial vegetable farming as number one.
7. He maintains work plan in his hand note book. This helps monitoring the task progress.
8. He maintains very rough sketches of expenditure and income. Bulk accounting for every crop. Last year he lost form cauliflower because of price down. Income 12 K against 25 K expenditure. A year before the income was 40 K against 25 K expenditure. He calculates his and his wife labor cost as well.
9. 75 % group members are fully practicing organic farming and rest partially. Beside him 6 other farmers of his group are doing commercial farming very well. They include a) Sukaram , b) Sharmila, c) Sabina, d) Shantabahadur, e) Bhim Maya and f) Parbati.
10. On the FFS day some famers not from the group also observes. The observers with keen interests include Samjhna Tamang and Maya Tamang. He sells approximately 10 % to the neighbor from the farm gate.
11. The collection center is not functioning up to the mark.
12. He calls hotelier a day before harvest, collects demands and acts accordingly. Sometime they suffer from oversupply and price goes down. They need to plan carefully.
13. Farmers are making profit from the organic farming therefore most of them likely to continue after withdrawal of the project. There is a chance that some may quiet. He wished if he could visit other big organic farm in the next phase of the project. Himalayan Organic Farm may be good to visit.

14. Purna Tamang is also secretary of the Cooperative where organic farming groups have been affiliated as group member. As he informed
  - a. The cooperative undertakes crop insurance (supported by ASK)
  - b. Provides loan for commercial farming
  - c. Connects with the Agriculture service center
  - d. Recommends farmers to receive subsidy from the government agencies
  - e. Sells Fertilizer and seeds. Though the fertilizers are inorganic. The cooperative can avail organic fertilizers upon demand.

**Field Visit Date: June 6, 2019**

**Farmer: Dhan Bahadur Tamang , Ward 1**

1. He is relatively big land holder. Approximately 28 ropanies of which 7 ropanies for organic vegetable farming.
2. Four crops in a year – Maize-Potato- Radish-Radish. At some places Maize and beans combined. Organic farming takes longer time for each crop.
3. He feels the soil quality being improved though soil test still to carry out. He also found one potato weighing 1 Kg.
4. He has a unique way of mix cropping. He plants maize at spacing of 2ft. X 2 ft. At time of weeding creates ridges on line of the maize creating furrows in between. He plants cauliflower or cabbage in the furrow between maize. When maize ready to harvest the whole stubble uproots. He uses the soil of the ridges (where maize planted) to fill the furrow (where vegetable planted) and to raise it little high. This way he keeps on shifting ridges. He has found good yield and have adequate time for the crop to ripen.
5. He always consult with agriculture technician before testing new ideas. His first inspiration was from farm visit to Ghimire Gaun.
6. He uses sprinkle irrigation system for efficient use of water.
7. He thinks 3 ropani of land is enough to support a family of 4 if proper agriculture is performed.

**Interview Date: June 5, 2019**

**Respondent: Sunita Tamang , Program Assistant**

1. Marketing has been challenging part of the whole cycle.
2. Hotels buy only a small part of the production
3. The significant achievement has been expansion of vegetable farming. At least 12 vegetables have been grown in the farm compared to 3 or 4 in the past.
4. The farmers who were shy before are now confident enough to speak out their issues in public

## Annex 6: Types of training conducted in ward 1 and ward 2 in Kavre (2015 – 2018)

- 1) Manure management and urine collection training – 3 days
- 2) Compost manure, organic liquid manure and organic pesticides training for making- 3 days
- 3) Kitchen garden management training – 3 days
- 4) Commercial vegetables farming training – 5 days
- 5) Agro-forestry management training – 5 days
- 6) Exposure visit for farmers – 5 days
- 7) Soil test training – 1 day
- 8) Farmer fields school – 16 days (weekly?)
- 9) Organizing monthly meeting in all farmer groups
- 10) Support to farmer (technical support equipment support: plastic tunnel, seed, hand tractor, drum, etc)
- 11) Farmer handbook give to the farmer
- 12) Crop Insurance
- 13) Distribution of cardamom plant and other plant also
- 14) Soil and seed improvement training – 3 days

## Annex 7 List of project activities and number of participating people

| No | Project activity  | Event | Indigenous people |     | Dalit |   | Others |    | Total |
|----|---|-------|-------------------|-----|-------|---|--------|----|-------|
|    |   |       | M                 | F   | M     | F | M      | F  |       |
| 1  | Farmers group formation and reorganization  | 9     | 169               | 133 | 4     | 2 | 26     | 23 | 357   |
| 2  | Farm Yard manure management training  | 9     | 152               | 75  | 0     | 2 | 18     | 18 | 265   |
| 3  | Compost and Liquid manure preparation and management training                       | 9     | 122               | 65  | 1     | 1 | 3      | 6  | 198   |
| 4  | Training on soil and seed quality improvement for Organic production                | 9     | 27                | 4   | 0     | 2 | 2      | 7  | 42    |
| 5  | Training of organic vegetables production in commercial scale                       | 4     | 49                | 21  | 2     | 2 | 2      | 16 | 92    |
| 6  | Kitchen Garden management training  | 9     | 139               | 31  | 2     | 2 | 11     | 14 | 199   |
| 7  | Agro-forestry practices training  | 2     | 23                | 14  | 0     | 0 | 2      | 5  | 44    |
| 8  | Capacity building training of leader farmers  | 1     | 11                | 5   | 0     | 0 | 1      | 4  | 21    |
| 9  | Support on Farm Yard Manure management  | 3     | 69                | 18  | 0     | 0 | 2      | 11 | 100   |
| 10 | Support on compost and liquid manure preparation                                    | 3     | 78                | 15  | 0     | 0 | 3      | 4  | 100   |
| 11 | Support to produce organic oriented vegetable growing                               | 3     | 20                | 16  | 0     | 1 | 2      | 1  | 40    |
| 12 | Support in Kitchen garden management  | 3     | 34                | 16  | 2     | 0 | 1      | 7  | 60    |
| 13 | Support in agro-forestry practice   | 3     | 12                | 3   | 0     | 0 | 1      | 4  | 20    |
| 14 | Training on cooperative management  | 2     | 13                | 23  | 0     | 0 | 2      | 3  | 41    |
| 15 | Support to Cooperative in business plan development for organic vegetable marketing | 2     | 11                | 25  | 0     | 0 | 5      | 5  | 46    |

|    |  |   |             |            |           |           |            |            |             |
|----|--|---|-------------|------------|-----------|-----------|------------|------------|-------------|
| 16 | Farmers field visit in organic production              | 2 | 33          | 19         | 0         | 0         | 7          | 12         | 71          |
| 17 | Distribution of fodder tree seedlings and grass slips  | 1 | 53          | 26         | 0         | 2         | 18         | 17         | 116         |
| 18 | Distribution of quality vegetable seeds                | 3 | 417         | 93         | 6         | 8         | 33         | 42         | 599         |
| 19 | Distribution of plastics for tunnel farming            | 2 | 23          | 12         | 0         | 0         | 1          | 5          | 41          |
| 20 | Soil test programme                                    | 1 | 34          | 14         | 3         | 0         | 19         | 15         | 85          |
| 21 | Distribution of agricultural lime for acidic treatment | 1 | 53          | 26         | 0         | 2         | 18         | 17         | 116         |
| 22 | Distribution of Cardamom seedlings                     | 1 | 139         | 31         | 2         | 2         | 11         | 14         | 199         |
|    | <b>Total</b>   |   | <b>1681</b> | <b>685</b> | <b>22</b> | <b>26</b> | <b>188</b> | <b>250</b> | <b>2852</b> |

## Annex 8: Criteria for selection of lead farmer and subsidy recipients.

### **1. Criteria for selection of farmer group member**

- Committed for practicing organic vegetable farming and capable of working in field.
- Possesses agriculture land and animals (cattle / buffaloes / goats – as source of urine and manure)
- Committed to attend group meeting on regular basis, and implement group decision.
- Committed to obey group rules and regulation.
- Committed to work in line with the goal and objectives of the program.
- Preferences for women, dalits, and marginalized community.
- Able to internalize learning of the training and also capable to train others.

### **2. Criteria for selection of leader farmer**

- Work like as a model in group
- Should engaged in agriculture and stay more time in field
- Work as per goal and objectives of program
- Able to teach other what they learn
- Work as per rules and regulation of groups
- Should have self-confident, great personality, believable and respective person
- Women, marginal people and dalits are mostly focused
- Can apply acquired knowledge in field and able to teach other
- Should have suitable land for agro forestry
- Should practice sustainable soil management in field

### **3. Criteria for selecting farmers for providing support on farm yard manure management**

- Continuous dung management and urine collection
- Roof at dung to protect from losses due to sunlight, air, water.
- Not drying manure at field and keep manure at single heap not in scatter heap and covered heap by leaves, straw or immediate incorporate manure in field.
- Continuously used urine and properly prepared manure in field/vegetable.
- Women, marginal people ,single women and dalits are mostly focused and givenpriority
- Evaluation committee member should decide who should get the support by evaluating farmer field.
- Contract to apply this process continuously.

**4. Criteria for selecting farmers for providing support on compost and liquid manure management**

- Continuous preparation of compost and jholmaol (liquid manure) and organic pesticides.
- Continuously applying prepared compost/ jholmol and organic pesticides in field..
- Producing and consuming of organic products by applying prepared compost/ jholmol and organic pesticides.
- Not drying manure at field and keep manure at single heap not in scatter heap and covered heap by leaves, straw or immediate incorporate manure in field.
- Women, marginal people ,single women and dalits are mostly focused
- Evaluation committee member should decide who should get the support by evaluating farmer field.
- Contract to apply this process continuously.

**5. Criteria for selecting farmers for providing support on commercial scale vegetable farming**

- Organic commercial vegetable farming must be done in minimum 1/2thropaniarea.
- Should have one compost heap and nursery bed in one corner of garden in all season.
- Should produce 2-3 vegetables in commercial scale.
- Should produce vegetables according to demand and value in market
- Women, marginal people ,single women and dalits are mostly focused
- Evaluation committee member should decide who should get the support by evaluating farmer field.
- Contract to apply this process continuously.

**6. Criteria for selecting farmers for providing support on kitchen garden established**

- Kitchen garden farming must be done in minimum ¼thropani area.
- Should have one compost heap in one corner of garden.
- Minimum 7 vegetables should be planted according to season.
- Regularly produced and use compost, jholmol, organic pesticides and farm yard manure in kitchen garden.
- Women, marginal people ,single women and dalits are mostly focused
- Evaluation committee member should decide who should get the support by evaluating farmer field.
- Contract to apply this process continuously.



## **7. Criteria for selecting farmers for providing support on agro-forestry establishment**

- Should be in Minimum 2 ropani area
- Vegetable, cereal crops, cash crops, fruits trees, fodder, forest trees, NTFP and medicinal plant should be included.
- Continuous management with fixed area.
- Get benefit by using barren and sloping land.
- Should have continuous production and income.
- Women, marginal people, single women and dalits are mostly focused.
- Evaluation committee member should decide who should get the support by evaluating farmer field.
- Contract to apply this process continuously.

Annex 9: List of farmer groups, executives, leader farmers, and savings (as of June 2019)

| Name of Group and village            | Chair and contact no                      | Secretary and contact no             | Leader farmer and contact no       | Savings (NRs)  |                |                | No of members in group |        |
|--------------------------------------|---|--------------------------------------|------------------------------------|----------------|----------------|----------------|------------------------|--------|
|                                      |   |                                      |                                    | Cooper ative   | In the Group   | Total          | Old                    | Active |
|                                      |   |                                      |                                    |                |                |                |                        |        |
| Prakriti Farmers group, Gairigoan    | Sukram Tamang<br>9869210474               | Miraj Tamang                         | Purna B Tamang<br>9849347114       | 43500          | 9,260          | 52,760         | 22                     | 20     |
| Chittegoan Farmers group, Chittegoan | Prem Kumari Tamang<br>9841637824          | Krishna Kumar Tamang<br>9860639246   | Krishna Kumar Tamang<br>9860639246 | 46,936         | 11,000         | 57,936         | 24                     | 21     |
| Sayapatri Farmers group, Chhapgoan   | Maya Tamang (no mobile)                   | Ms Samjhana Tamang<br>9869766656     | Ms. Samjhana Tamang<br>9869766656  | 48,500         | 24,000         | 72,500         | 25                     | 24     |
| Mahankal Farmers group, Dubagoan     | Nirmaya Tamang<br>9841112337              | Chandra Bahadur Tamang<br>9841114043 | Ms. Nirmaya Tamang<br>9841112337   | 42,500         | 22,000         | 64,500         | 23                     | 17     |
| Halede Farmers group, Halede         | Arjun Prasad Bastakoti                    |                                      | Basu Basakoti<br>9861802346        | -              | 105,000        | 105,000        | 30                     | 25     |
| Dhandagoan Farmers group, Dhandagoan | Nirmala Tamang<br>9810351719              | Prem Tamang<br>9860868081            | Dhan Bahadur Tamang<br>9846677371  | 72,036         | -              | 72,036         | 25                     | 18     |
| Lalupate Farmers group, Makaibari    | Muna Gurung<br>9849174221                 | Prajita Gurung                       | Ms. Sarita Tamang<br>9808772309    | 52,750         | 35,985         | 88,735         | 23                     | 23     |
| Lagansheel Farmers group, Kafleni    | Sabina Tamang<br>9841516187               | Shanti Tamang<br>9869637343          | Ms. Sabina Tamang<br>9841516187    | 13,330         | 64,000         | 77,330         | 29                     | 27     |
| Laligurans Farmers group, Sathikuria | Krishna Bahadur Gole<br>9741120246        | Rojina Dhakal                        | Yam B Gurung<br>9841692885         | 38,550         | 28,000         | 66,550         | 24                     | 24     |
| <b>Nagarkot Farmers Network</b>      | Santa Bahadur Tamang<br>9751017798        | Samjhana Tamang<br>9869766656        |                                    |                |                |                |                        |        |
| <b>Shramsil Cooperative</b>          | Dilman Tamang<br>9841537717<br>9851006417 | Purna Bahadur Tamang<br>98493471     |                                    |                |                |                |                        |        |
| Total Saving and group members       |   |                                      |                                    | <b>358,102</b> | <b>299,245</b> | <b>657,347</b> | 225                    | 199    |

