

# Supporting Entrepreneurship in Earthquake

## Hit Areas: Study of Ramechhap

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## SUPPORTING ENTREPRENEURSHIP IN EARTHQUAKE HIT DISTRICTS

### **Acknowledgement**

Many thanks to Daayitwa for providing a platform to conduct the research, with whose great support and constant encouragement this has been possible. I would like to extend my gratitude to National Reconstruction Authority and its Coordination Committee Office in Ramechhap. I appreciate the help of Agriculture Development Office, Ramechhap. At last I would like to thank my family and all the fellows who were always supportive and provided a very friendly environment.

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## **Abstract**

Nepal is one of the highly disaster prone regions in the world. With a complex geographical structure in the hilly and himalayan regions, periodic natural disasters affect human life during different seasons and climate. These complexities have directly affected the policies, programs and development activities of the government at different levels. The unique geographical structure of the country has provided us with diverse communities. However, it has also provided different development perspective in different parts of the country.

The earthquake that hit the nation on 25 April, 2015, exposed us to the realities that we are surrounded with. The massive natural disaster brought devastating consequences that affected the lives of people- both in the short term and long term. The National Reconstruction Authority with its available means and resources started the infrastructure rebuilding of households affected by the earthquake. Building back better to form a resilient society was the aim of the government.

This paper concentrates on the role of government in economic rebuilding after the earthquake focusing on supporting agriculture entrepreneurship in Ramechhap district. The research process included interaction with the agriculture entrepreneurs, government officials of related public agencies and members of the civil society.

Understanding the idea that economic rebuilding is the approach that leads to development of strong and sustainable communities, this research paper explores the possibility of a public private partnership to start a development initiative. The inability of human beings to predict disaster and its consequences depicts infrastructure development as a fragile investment considering the possibility of loss of life and property. The paper also discusses the dynamic resilient approach of rebuilding communities by enabling sustainable livelihood opportunities.

## **List of Abbreviation**

## SUPPORTING ENTREPRENEURSHIP IN EARTHQUAKE HIT DISTRICTS

ADS	Agriculture Development Strategy
AEDI	Agriculture Entrepreneurship Development Initiative
GDP	Gross Domestic Product
GoN	Government of Nepal
INGO	International Non-Government Organization
MFI	Micro Finance Institutions
MoAD	Ministry of Agriculture Development
NGO	Non-Government Organization
NPC	National Planning Commission
NRA	National Reconstruction Authority
SME	Small and Medium Enterprises
VDC	Village Development Committee

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## SUPPORTING ENTREPRENEURSHIP IN EARTHQUAKE HIT DISTRICTS

### I. Introduction

On the 25<sup>th</sup> of April, Nepal was hit by a 7.8 magnitude earthquake which took lives of approximately 9000 people and more than 22,000 people were injured. As recorded by the National Seismological Center (NSC) the earthquake struck Barpak, the historic district of Gorkha (NPC, 2015). The Government of Nepal (GoN) has reported that 30 out of 75 districts were affected, including highly populated areas in Kathmandu Valley, but most affected were remote areas in the mountains, especially Sindhupalchowk, Kavre, Nuwakot, Rasuwa, Ramechhap and Dolakha districts in the central region, and Kaski, Gorkha and Lamjung districts in the Western region. (Acted Nepal, March 2015)

The earthquake directly affected people from different backgrounds and living in different geographical areas in the country. Poor people and farmers in rural areas were more likely to be affected by the earthquake. Households with monthly income of NPR 2,500-9,999 were the most likely to have experienced such damage. Of those who earned less than NPR 2,500 monthly, 94% suffered some damage to their house. In contrast, 65% of those with monthly income of NPR 20,000-39,999 had minor or no damage to their house (The Asia Foundation, 2015).

In the hardest hit areas up to 90% of enterprises, markets and livelihoods were affected. Major sources of livelihood in the affected areas include small farms, the sale of agro products, vegetables and artisanal products, and jobs from local tourism (NPC, 2015).

The effect of earthquake is likely to drive 2.5 percent to 3.5 percent of Nepalese population back to poverty adding 700,000 people more to the country's total poor population (Ministry of Finance, 2015). The economic rebuilding of the most affected areas is necessary to support the national agenda of 'Building Back Better'. Supporting entrepreneurship is a possible and necessary approach to restore the livelihoods in affected areas.

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This research focuses on the needs-assessment of the agriculture based enterprises in Ramechhap. The research question inquires about the current challenges and needs of the enterprises and the appropriate approach to analyze the prevalent challenges revolving around the role of government agencies in enhancing an enabling environment for the agriculture entrepreneurs of Ramechhap district.

The research proposes to identify the factors that influence the progress of the affected enterprises post earthquake, and the role of government and non-government bodies to strengthen the process of rebuilding enterprises and livelihoods. The objectives of the research can be stated as below:

1. To identify the deciding factors that have affected the enterprise and livelihood of Ramechhap.
2. To substantiate the role of supporting institutions and factors affecting the development process of enterprises.

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## II. Methodology

This assessment was conducted using both qualitative tools and quantitative tools, where survey was conducted with the agriculture entrepreneurs of different VDCs to collect data and statistics of the needs of the targeted communities of Ramechhap district.

The research was focused on assessing the specific challenges faced by the targeted population after the earthquake, its effect and the urgent needs that needed to be addressed for the economic rebuilding of their occupation and livelihood.

The survey was conducted at ward level with the entrepreneurs (?)engaged in producing of agricultural products and some non-entrepreneurs who were involved in subsistence farming. Leaders of the farming community of the region and Agricultural Development Cooperatives facilitated the meeting for this survey. The survey was important to understand the role of government in helping them generate monetary benefits from their agricultural products.

The research process also included interview with the government officers of the District Agriculture Office, District Coordination Committee (Ramechhap) of National Reconstruction Authority, Federation of Commerce and Industry District Office, Department of Cottage and Small Industries District Office, District Development Committee, Federation of the Agriculture Development Cooperatives.

These tools aimed at understanding the needs and vulnerabilities of communities in targeted areas. Both questionnaires and interviews collected quantitative information on the needs of the communities in terms of agricultural practices, items produced, irrigation facilities, infrastructure development requirements, education and training facilities, food security, livelihoods, and coping

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strategies of households. The interviews with ward leaders collected more detailed information on demographics of the ward, relief received, infrastructure present in the ward, damages (to houses and infrastructure) and markets available.

In order to address the research problem and objectives, both primary and secondary data sources have been used.

### **1. Secondary Data**

Secondary data is included for a holistic understanding of the context. Secondary data sources include previous studies and available records in the government bodies that provided the numbers indicating the damages, loss of property and assets, the historic background of entrepreneurship development and livelihood status of the population.

### **2. Primary Data**

Primary data is collected in order to assess the target population with accurate information using different methods. The sources of primary data include:

- **Structured Questionnaire:** Structured questionnaire was used to record the information provided by the sample population. These questions addressed the research questions and were directed towards acquiring information which indicated the needs of the sample population. The questionnaire focused on identifying factors like age, sex, marital status, experience in the field, education, skill based training, access to finance, financial literacy, social status and other relevant components.

Fundamental questions:

- ❖ The income generated before and after the earthquake from the business?
- ❖ The estimated amount of damage to assets and other relevant resources?

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- ❖ The effects caused by the destruction of the production source, market or supply chain?
- ❖ The need for expert supervision, technical assistance, cooperative community activities for development?
- ❖ Availability of abundant resources, business preferences of people, the scope of adaptation and the prospects of sustainability?

● **Interviews:** Interview with the local entrepreneurs, local government offices and the civil society groups in order to understand the post disaster needs of the community in relation to economic rebuilding of enterprises and income generating livelihood activities.

● **Focus Group Discussion:** Focus Group Discussion was an important method to put forward the questions to the community with maximum participation and it was also a platform to understand the dynamics of different components of the community. It included different stakeholders of the community including:

- ❖ Entrepreneurs from both formal and informal sectors who were affected by the earthquake.
- ❖ The consumers committee of the district and its members, including non-member consumers.
- ❖ Government officials of the regulatory bodies from district and local levels.
- ❖ Representatives of the District Chamber of Commerce Ramechhap.
- ❖ Community leaders from various backgrounds
- ❖ Representatives of the agricultural cooperatives of the district.
- ❖ Other essential stakeholders including technological experts and representatives of the organizations

### **Sample Size**

Data for needs assessment was collected from 7 VDCs in Ramechhap district. The VDCs include Manthali, Gelu, Khimti, Phulasi, Pakarbas, Salu and Chisapani. In total 86 agriculture entrepreneurs were assessed. 43 were male and 43 were female, among which 31 entrepreneurs were

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above the age of 50, and 55 were below the age of 50. Among the assessed entrepreneurs, the Agriculture Development Office listed 15 as pioneer farmers.

### **Data Collection and Analysis**

Data was collected in the field from 18<sup>th</sup> July to 26<sup>th</sup> July, 2017. Enumerators helped in the data collection process, they were also provided with trainings prior to data collection.

### **Limitations:**

There are three main limitations to this assessment:

1. There is not enough literature on the economic rebuilding post 2015 earthquake focusing on growth of agriculture sector. This phenomenon led to limited resources for reviewing and analyzing the situation at the grassroots level and discussion on the present plans and policies of the government. The literature available on infrastructure development, business development and the reconstruction process provided an insight on the larger framework but it did not provide adequate information needed for this research. This caused an information gap on the number of enterprises affected by the earthquake, type of damages caused and other important contextual information.
2. The weather condition during the research had an adverse effect on the data collection process. The initial target of covering the upper part of Ramechhap district was changed because of heavy rainfall leading to landslides, which caused roadblocks, and destruction, making mobility impossible in certain areas of the district.
3. The agricultural season during the research process also caused difficulties in managing meetings with the entrepreneurs as they were involved mainly in their field utilizing the rainwater for sowing rice seedlings. This made interaction with maximum number of entrepreneurs- for varied opinions and assessment of their needs- challenging.

### III. Literature Review

The worldwide perspective on Nepal earthquake of 25<sup>th</sup> April, 2015 is made up of the photos and videos in the social media and other reports and news outlets. The terrifying images were an indicator of the intensity of damage caused in terms of loss of life and property. Poorly made houses and old infrastructure, both in Kathmandu valley and in the rural parts of the hilly region, were prone to devastation.

As the aftermath of the 7.8 magnitude earthquake, a substantial number of household-based enterprises suffered major consequences of additional loss impacting their production and sales for a prolonged period; “damage to stocks of raw materials or finished goods have led to a further decline in production and sales” (NPC, 2015)(p21.). However, large establishments in the cities were not much affected.

Along with high rate of deaths in urban and rural parts of the country, earthquake caused decrease in income and limited financial activities for an extended period. The disaster caused temporary migration, which left the service sector to a halt and it also created an impact in the rebuilding process to a great extent. Not aligning to the expectation of the general masses and policy entrepreneurs, the demand of products used for the reconstruction of infrastructure decreased reason being “lower domestic consumption due to lower purchasing power of consumers, a reduced desire to purchase non-essential goods or services, and a drastic reduction in tourism” (The Asia Foundation, 2015) (p32.).

The collateral damage in the hilly region constituted of the major infrastructure including roads, bridges and trade-related infrastructure, which directly affected the small-scale enterprises of the rural economy. It affected the merchandise and service trade for a prolonged period until

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temporary solutions were devised. Small and medium scale enterprises are considered the major part of the Nepalese economy because of its scale of contribution to the GDP. Agriculture, on the other hand, contributes a large amount to the GDP and is one of the most affected sectors of the economy. Sumbal, 2015 states:

“Over 95% of registered Nepali businesses are SMEs, comprising over a fifth of the country’s GDP. The GDP by sectors is dominated by services sector with estimates of 49% contribution while agriculture has a share of 35% in the GDP, and industry is just 16 % of Nepal’s 35.15 billion GDP”.(p.1)

Agriculture being the major occupation of the entire nation was certainly affected because of the connecting factors linked to the damages of infrastructure, loss of lives, loss of property and priorities of people during the emergency. The farmers in the rural areas were the most affected by the earthquake. An assessment conducted by The Asia Foundation shows that people having income ranging from NPR 2,500-9,999 were highly affected as opposed to high income population, in contrast, 65% of those with income of NPR 20,000-39,999 had minor or no damage to their house. (The Asia Foundation, 2015) (p.).

The shifting priorities of people and change in context and settings drifted the regular economic activities. This created an impact in the business survival in agriculture sector and performance as opposed to construction sector, which was a need of the time. The low business performance by the people led to less revenue for the people involved in such small enterprises and also for the government in terms of tax collection. This phenomenon increased the level of household poverty, creating more challenges to the rebuilding process. The unavoidable circumstances led people to use the relief and rebuilding cash grant provided by the government to use in fulfilling their basic needs as the victims had no alternate source of income (NPC, 2015).

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The earthquake brought people from different sector together to solve the problem caused by it and also for a sustainable development to build back better. The victims and the rebuilding facilitators in Nepal warmly welcomed support from the diaspora from different regions of the world. Experts and other stakeholders from different sectors were emphasizing a dynamic model of rebuilding utilizing the resources for sustainable development as opposed to a static model of just rebuilding back to the previous state.

This process bridged rural development needs and business opportunities for investors. The government and private communities pledged to support the small and medium enterprises. Sumbal in his article states that the announcement of commitment of such scale only has a verbal impact, he stresses the point that the collaboration between the public and private sector is the only way forward in the rebuilding process. “Banks should start lending SMEs with more incentives, the government should announce growth package for SMEs to meet the needs of construction and employment”(Sumbal, 2015) (p.1). He highlights that the government may initiate a five year SME development project with the support of international donors in the 14 most affected districts. However, the banks and financial institutions are reluctant to investment in SMEs due to high risk of investment in the earthquake-affected areas. In his optimistic remark based on the enthusiasm of the government, Sumbal highlights that the disaster could be an opportunity for our small country to change its destiny. The government has not been able to take initiative in facilitating the process of utilizing the resources of the private sector to rebuild the devastated economy. It has been two years since the disaster, there is no plan on SME development.

Prithivi Man Shrestha points out that even after a year of the disaster, the “recovery of losses” in rural and urban settings could not happen because of the people not having insurance coverage of different kinds. As we do not see insurance on infrastructure, life insurance, crop

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insurance, equipment insurance or any other type of non-life insurance, different sectors are exposed to various risks. It highlights that the low participation on insuring the factors contributing to income generation has led to low recovery from losses which deprived the Nepalese population from being secured from disaster that was unprecedented; “Non-life insurance companies in Nepal have received only 3.53 percent of the claims against the total damages caused by the earthquakes on April 25 and May 12, 2015” (Shrestha, 2016) (p.1)

Considering the importance of agriculture in food security of the country, and its vulnerability, despite possible options of insurance of different kind, depicts the lack of utilization of available resources to secure our investment and productivity by both government and private sectors. The lack of preparedness caused the agriculture sector more damage pushing more people below poverty line.

The disaster preparedness plan of the country includes the compensation to the agriculture sector in different ways through different channels. The Ministry of Agriculture Development performs a number of tasks including necessary policy preparation and implementation so that agricultural production does not decline due to high or inadequate rainfall; it also works in the field of food security.

The lack of use of agriculture insurance by the farmers in rural areas has landed the agriculture sector of the country to a state where it is exposed to a high risk from disaster. This phenomenon can be an effect of the present policy of the government where the farmers are provided compensation for the loss of crop, which provides seeds and other inputs for the next season but does not address the loss caused by the disaster. “In the case of crop losses the compensation is usually paid in the form of free seeds and inputs for the new cropping season”(World Bank Group, 2009) (p.13).

The government has prepared much disaster response and risk management plan and revises

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the policies frequently, but it has not considered the involvement of farmers in the process of securing the products and reducing the financial risk and threat that affects them after the disaster. Understanding the disaster context of Nepal and assessing the global practices of insuring agricultural products of the farmers would help in decreasing the risk on the agricultural products of the farmers which supports the entrepreneurs to sustain financially after any disaster.

It is also evident that the small and micro enterprises are the sectors of the economy which contribute largely to the GDP of the country and these are the sectors, which are exposed to the risk of natural disaster. The reconstruction and rebuilding of the nation does not only mean rebuilding infrastructure but it also means creating resilient communities by implementing programs reducing risk of loss caused by a disaster in different sectors.

### **IV. Policy Context**

National Reconstruction Authority (NRA) was formed to facilitate the rebuilding of the nation, supported by the government and political parties of the country. Nepal Gazette published by the Government of Nepal (Dec, 2015) states in the preamble of the document:

Whereas, it is expedient to make legal provisions on the establishment of an empowered National Reconstruction Authority in order to promptly complete the construction works of the structures damaged due to a devastating earthquake of 25 April 2015 (12 Baishakh 2072) and subsequent aftershocks, in a sustainable, resilient and planned manner, and to promote national

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interests and provide social justice by making resettlement and translocation of the persons and families displaced by the earthquake. (p.1)

Thus, this legal provision has given the National Reconstruction Authority the sole responsibility of rebuilding of the nation. National Reconstruction Authority, as confused by many, is not only to involve in infrastructure rebuilding but also work on sustainable and resilient rebuilding of communities, including areas like entrepreneurship, supporting livelihood and agriculture, as the Nepal Gazette (Government of Nepal, Dec 2015) states that the priority and programs of NRA can be determined by the agency itself “to fix priority of the reconstruction, to approve such policies, plans, budgets and programs with schedule of operations as may be required for the reconstruction”(p.3).

The idea of dynamic resilience model emphasizes on the creation of an ecosystem which utilizes the available resources at a given point in time, planning for better and sustainable communities. In the process of building a resilient society, the NRA, as a new government agency with a fixed tenure of 5 years, is not able to devise plans and programs from inception. The process of devising plans and actions to help the agricultural communities in the earthquake affected areas should be in collaboration with the concerned agencies which have been working on similar issues and subjects in the past. The role of NRA should be of an agent of collaboration devising fast track action plans to implement in earthquake-hit communities to support agriculture entrepreneurs.

The government agencies, like the Ministry of Agriculture Development which has been working to develop the agriculture sector of the country faces many challenges which is also a major challenge for NRA and its programs. The Agriculture Development Strategy 2015-2035, prepared by the Ministry of Agriculture Development is seen as the comprehensive and the most looked upon

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agricultural plan of the government, which includes detailed framework for a long-term development of the agriculture sector of the country.

The district of Ramechhap mostly relies on conventional methods of farming. The advantage of the conventional method is the elimination of use of chemical fertilizers making the products of the farmers organic. The context of an organic setting by default is an advantage for both the consumers and producers of goods, and it has a high value in terms of health benefits compared to the imported products from the southern part of the country. However, the imported non-organic products because of low prices of such products dominate the local organic products. Here, the inability of government to devise and implement plans to promote organic products nationwide has caused the disparity. Bidya Pandey of MOAD states “no national level organic agriculture development plan has initiated yet. Some fragmented programs implemented are on local initiatives of state agencies, INGOs, NGOs, CBOs and entrepreneurs such as certification, marketing, trainings, visits, workshops, exhibition and fairs”(Nepal Permaculture Group, 2012) (p.26).

NRA can design and implement program supporting and aligning with the Agriculture Development Strategy 2015-2035 whose objective is to create “a 10-year Action Plan and Roadmap and a rationale based on the assessment of the current and past performance of the agricultural sector” (Ministry of Agricultural Development, 2012) (p.22).

The disaster prone environment of the country has made agriculture a sector with high risk for investment. Landslides and hailstorm in the hilly region and floods and drought in Terai has made it difficult for investors, companies and the private sector in general to invest or conduct research and development program. One of the primary reasons for agriculture sector not being able to develop despite being the major occupation of the country is the risk taken by the farmers alone in terms of loss caused by different factors like disasters and competitive market.

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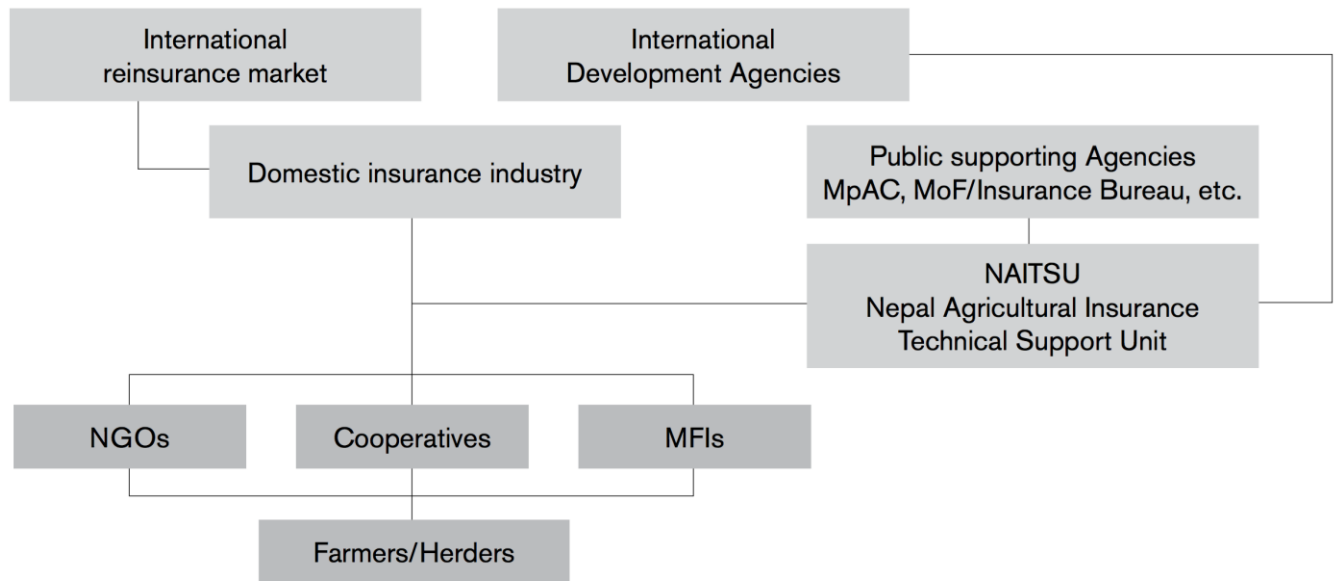
Kilimo Salama, an African initiative that insures the farmers from drought and excess rain has proved as a successful startup which highlights the role of government as subsidy provider and promoter of the program. The program uses telecommunication and weather indexing technologies to assess the risk and for the payout of insurance. In their experience, farmers who are insured are better off after the disaster as opposed to the farmers who bear the risk themselves. “In the years following droughts, insured farmers are able to continue farming as before the drought, while their uninsured neighbors continue to feel the impact of drought until several seasons after the drought” (Kilimo Salama, 2010) (p.1).

The cooperative movement in Nepal made an important grip at rural level where different communities are involved in finance and enterprise. Agricultural cooperatives also have proved themselves as an agent of development in the agricultural sector. However, the experience of agriculture cooperatives in livestock farming and no experience in crop insurance make it a challenge for government to identify a mutual insurer at the local level.

The current insurance legislation does not encourage or incentivize crop insurance and livestock insurance implemented through cooperatives. This policy context has barred the fundamental requirement of an organized crop insurance mechanism. This phenomenon has barred the collaboration between cooperatives and private commercial insurers in order to identify:

- Product design and rating to confirm to the technical and legal requirements of the industry.
- Collaboration in the marketing of agricultural insurance products, which helps in reducing the cost for both the parties.

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Source: ISDR/World Bank

Fig 1.1: Illustrative Institutional Framework for Public-Private Agricultural Insurance Partnership in Nepal

The government of Nepal has also created a body called Nepal Agricultural Insurance Technical Support Unit “whose mandate would be to provide technical support to the stakeholders to develop, rate and implement new products and programs” (World Bank Group, 2009) (p.83). However, the government has implemented no substantial program, premiums or plan.

This policy context and the present need of the agriculture entrepreneurs in Ramechhap and other disaster struck districts requires intervention at the local level where NRA can help by assisting a particular process of insurance risk assessment with the use of innovative solutions. A coordinated effort of concerned agencies based on past experience and information would help to make evidence based policies.

### **V. Analysis of Findings**

Nepal being an earthquake prone region in the world has the responsibility of taking lead in planning and preparing for such disaster that causes massive destruction and loss of human lives. The country is not only prone to earthquake but also seasonal disasters like landslides in the hilly region and flash floods in most parts of the country. The natural setting exposes different factors of production to high risk of damages by natural calamities.

The aftermath of the earthquake brought immediate realization to the authority and general masses about the urgent need of rescue effort which drove everyone to extend a helping hand to those in need. The phasing out of the rescue effort brought the masses and the government to consider planning of the relief to the victims of the earthquake leading to the third phase of the response process of rebuilding the communities.

The government had the responsibility of managing all the relief and rebuilding efforts poured from the non-government sector and international community. To channelize all the genuine efforts and to create a one-window mechanism, the government with the consent of the political stakeholders created a NRA.

NRA has a district coordination committee office in Devkota Chowk in Ramechhap. The office has coordinated many programs benefiting the farmers by assisting in relief distribution, research on different subjects and more. The office also works in coordination with District Agriculture Development Office, District Livestock Office and other important agencies of the government.

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One of the important agendas of the NRA is sustainable economic rebuilding. Agriculture sector of Ramechhap district falls under highly affected area where majority of the population is involved in farming. NRA did not have visible programs or plans related to agriculture for Ramechhap district. This is an opportunity for NRA to take lead in facilitating the economic rebuilding process concentrating on the agriculture sector through which it can create an impact at grassroots level.

### *Local Context*

Sustainable reconstruction and development cannot be achieved without strengthening the capacity of local communities. The NRA has been focusing on the infrastructure rebuilding within the communities considering the importance of health, sanitation, security and well being of the victims.

Looking from the economic rebuilding lens, the importance of identification of the growth potential sectors to support the victims for sustainable livelihood and income generation activities is vital. The primary occupation of the people in Ramechhap is agriculture. Majority of the population is involved in subsistence farming, which is not contributing to monetary value creation.

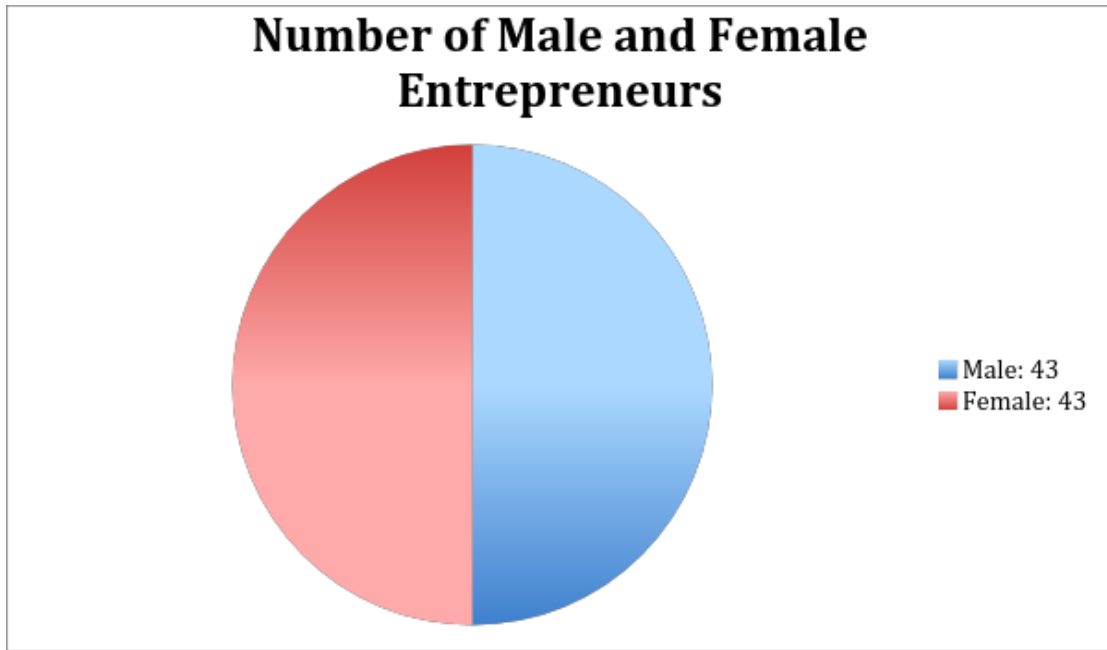


Fig 2.1: Number of interviewed male and female entrepreneurs.

### *Contact with the government*

Majority of the agriculture entrepreneurs are in contact with the government authority, which facilitates and looks after programs and policies related to agriculture, namely Agriculture Development Office in Manthali, the headquarter of Ramechhap district. Only 7.74% of the total surveyed entrepreneurs were not in contact with the Agriculture Development Office or were not aware about the program and policies of the government regarding agricultural activities. More male entrepreneurs are in communication with the government compared to female entrepreneurs. This phenomenon depicts the prevalent social construct, and also shows that lack of information dissemination to women members of the society is the reason behind the lack of information, knowledge and expertise encouraging women entrepreneurs to start business. However, the fact that the entrepreneurs are in communication with the government office does not indicate that people are

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getting benefits from the government. The needs of the farmers are not met and have not been considered even if people have been constantly notifying and lobbying for any type of assistance for their agriculture business.

Their experience of interaction with the government, in most cases, is not pleasant. The prevalent politicization over the resources provided by the government and the benefits provided to the farmers has created an unbalanced relationship between the government and farmers. Yogendra Bhandari, an entrepreneur in Pakarbas village, who is not politically active, shared, “political parties in the government claim the authority over the resources and it is misused to gain popular support of the voters which invites polarization of the farmers in terms of political affiliation.” Here, an entrepreneur’s chances of getting access to the benefits and services provided by the government are minimum if they choose to remain independent in terms of political affiliation. The farmers want their relationship with the government to be more close and effective. The beneficiaries want improved communication with the government and they also propose solutions like distribution of mobile phones through which they can be in constant communication with the officials, this way they would not miss any important announcement and also could help the state in the process of providing accurate data on relevant topics for research and development. This two way communication enhanced by technology would help both the farmers and government.

### *Contact with NGOs and INGOs*

National and international non-governmental organizations also have a significant role in contributing to the development process of different VDCs of Ramechhap district. Along with other activities, these organizations are directly and indirectly involved in strengthening the capacity of production of farmers by providing different technical trainings, logistical support, seed money and cooperative operations. Here, 40% of the surveyed population was in contact with other

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organizations apart from the government, where men and women were found to be engaged in development activities in equal proportion. Meanwhile the plight of the farmers remains the same, the farmers are delighted by the dedication and support shown by different organizations but they constructively criticize the non-government sector of being biased in terms of population selection. The entrepreneurs are concerned that people with good connections at political and bureaucratic level are only recognized by the non-governmental agencies.

They highlighted the part where the organizations had come in a village to just finish their job providing no substantial benefit to the farmers, which the organizations project to be their fundamental motive. In a case of Chisapani village, an entrepreneur recalled an incident where the political motives of different factions led to cancellation of a project initiated by an international organization. This depicts that not only the government sector but also the non-government sector faces similar complexities caused by political polarization and aggression of different stakeholders in the village over resources provided to the farmers. This phenomenon can be viewed as an obstacle in the process of development, which can be assessed by implementing transparent methods of activities and inclusive participation of people.

### *Use of Technical Tools*

Although above 90% of the people are in contact with the government, only 30% of the entrepreneurs' population use technological tools in their field. Some entrepreneurs use tillers during the sowing season, water pump and drip irrigation pipes for irrigation. Rest of the entrepreneurs depend on traditional tools for most of their work. This situation indicates that despite being in contact with the government, the farmers are not aware of the advantage of using technological tools. It also signifies the inefficiency of government programs in terms of communicating with

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farmers to encourage using technological tools for better productivity, to raise awareness and also to create impact through its programs and plans.

In a village called Titre in upper Chisapani, a person listed as a pioneer entrepreneur stated that the other village in lower Chisapani and its agriculture cooperative organization receives most of the benefits provided by the government which is because of the personal connection people have with the Agriculture Development Office in Manthali.

Among 30% of the entrepreneurs using advanced technological tools, all are male and are listed as pioneer agriculture entrepreneurs by the Agriculture Development Office. Here, the pioneers have access to the resources provided by the state, it can also be seen as an incentive provided by the government for hardworking farmers with the aim of creating a ripple effect by facilitating them as leaders and role models in the village, expecting other farmers to follow the same trend. If this process is considered as the idea of stimulating behavioral change, then it is doing more damage than good in case of the VDCs in Ramechhap by creating disparity among the farmers in a community. This process of resource distribution in Ramechhap is based on very less detailed evidence of farmers and their enterprise.

The government's scheme of helping the farmers use advanced technical tools seems ineffective. This has pushed the emerging entrepreneurs to be opponent of government where they see favoritism toward the privileged and well-connected entrepreneurs. This leaves no room for other aspiring entrepreneurs to seek support from the government. A small monopoly on resources deeply affects the entrepreneurial spirit and the ambience of creating enterprises that would help rebuilding the communities in terms of livelihood.

### *Trainings*

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Half of the total people surveyed have taken formal trainings of different kinds where 40% are female and 60% are male members of the society. The government spanning from few days, to a week to 3 months, conducted most of the programs discussing different factors of enterprise building including management, strategic planning, market analysis and technical trainings. The people receiving the trainings seemed more active socially and were informed about the importance of skills enhancement and technology driven farming. On the other hand, people not equipped with such trainings had a great desire of being involved in such trainings to be better informed and to scale up profits from their enterprise. Above 80% of the people highlighted the need of relevant trainings.

Almost 56% of the respondents concluded that they are in need of trainings related to production of organic vegetables, which strongly competes against the vegetables supplied to the market in Manthali containing inorganic fertilizer. Meanwhile, 30% of the remaining population represented the need of trainings related to the use of advanced inorganic fertilizer and pesticide citing the advantages of production and competition with the products imported from Terai in terms of price. The remaining 14% of the population did not mention about training related to organic or inorganic production. Here, the government does not have a fixed plan regarding the production method of vegetables and crops, leading to lack of capacity of the products of farmers to compete against imported products in the market. A clear government direction and plan for a specialized program for organic or inorganic production would create a streamlined approach for better production and competing capacity of the products in markets in the district and would also stimulate demand for specialized products in other markets in neighboring districts. This is related to the hope of the farmers that the government would declare pocket areas for development of specific products like tomatoes in Chisapani, cucumber in Khimti and likewise. Farmers believe that declaration of pocket areas would attract special attention not only of the government, its program and subsidies, but also in the consumers as it would create a brand value of the products from specific areas.

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The elderly population who have not received any training regarding the development of their enterprise tend to think that training requires prior knowledge and the ability to read and write. This understanding of training as a high-end process and tool has created a perceived challenge to the farmers in the villages.

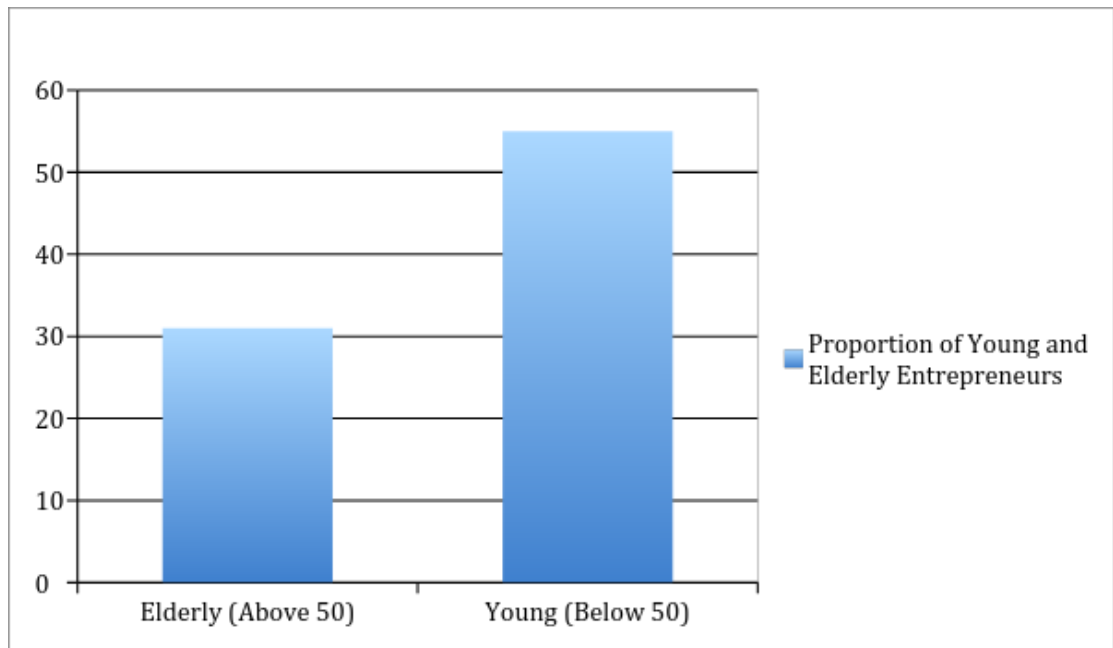


Fig 3.1: Young and elderly entrepreneurs below and above 50 years of age.

### *Irrigation*

More than 90% of the people experienced a fall in income after the earthquake. Household infrastructure rebuilding and lack of market accessibility being main reasons that people did not have time and resources to transport their products to the market. Problem faced by farmers due to lack of irrigation facilities is an important finding of this research. The earthquake, in many cases, disrupted or destroyed the source of water used by the farmers for irrigation purposes. This directly and hugely affected the production of the farmers which is the biggest plight of the agro-entrepreneurs. The problem of irrigation facilities created as the aftermath of the earthquake,

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requires a long-term solution. However, NRA can play a vital role in helping in the irrigation sector during the transitional phase by creating different low cost small-scale community based plastic ponds for seasonal irrigation.

### *Infrastructure damage*

The earthquake damaged 60% of the total assessed population's infrastructure related to their business. Most of the destroyed infrastructure included plastic tunnels which were made of bamboo pillars and covered by plastic in the shape of a tunnel. These tunnels are used to protect the plant from excess rain, diseases, insects, and birds, and prevent evaporation of soil moisture.

The infrastructure of the agricultural cooperatives of the assessed VDCs were also affected by the earthquake, which has impacted community organizing since then. Cold storage facilities provided by the cooperative infrastructure were also affected impacting the cold storage services for the farmers. The farmer's legitimate demand of iron tunnels has a sustainable outcome where the cost of repairing and rebuilding a plastic tunnel saves the amount of regular grant money provided for the same purpose. The iron tunnels can be made in partnership with the entrepreneurs in terms of subsidized loans.

The primary needs of the agro-entrepreneurs after the earthquake do not seem different than the needs they have been projecting from a long time. The infrastructure has been destroyed, but in a small scale; the reason being that they had only few plastic tunnels as infrastructure for agriculture. The farmers highlighting the needs of irrigation facilities not only indicates the need after the earthquake but also reminds the government about the prevalent phenomenon of lack of irrigation facilities which has reduced the production more after the earthquake damaging most of the sources of water.

## SUPPORTING ENTREPRENEURSHIP IN EARTHQUAKE HIT DISTRICTS

Different from the conventional demands, 43% of the agro-entrepreneurs indicated the need of soil test and assessment of their agricultural land. The production pattern and the productivity in many cases has decreased. The earthquake jolted the land frequently, which has left farmers in uncertainty that the reason for decreased productivity is shuffling of minerals and the composition of soil of their agricultural land. They said that soil test would give them a way forward in agricultural practice. This requires expert evaluation and suggestion and the process would strengthen and promote evidence based farming. The farmers expect that the government would help them in identifying the problem in their land.

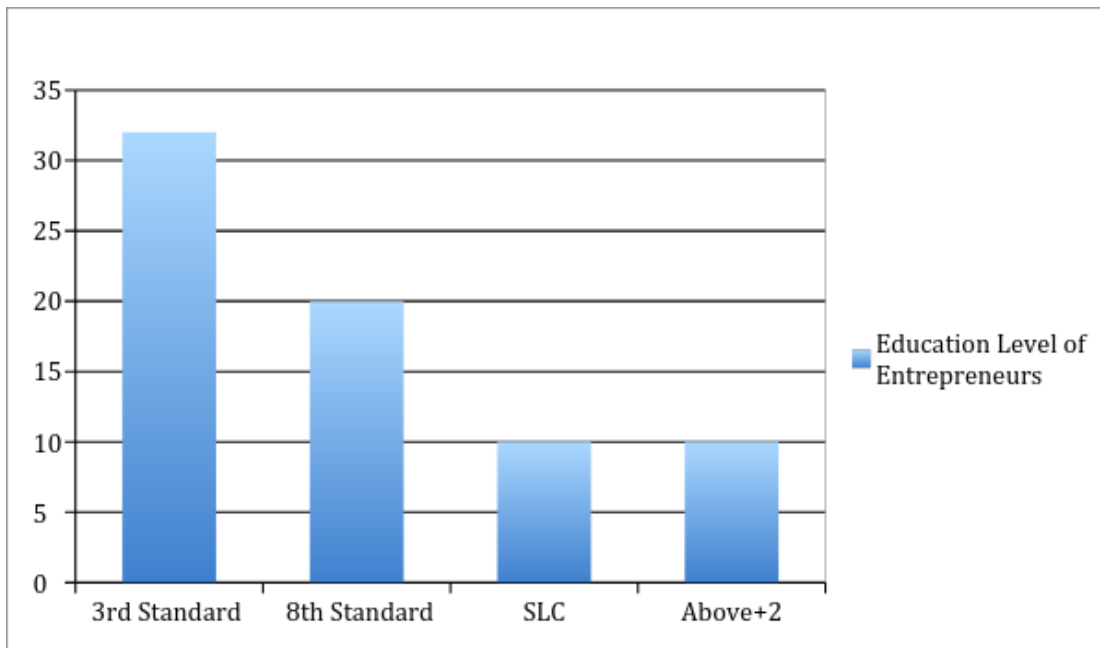
### ***Business Registration***

Here, 99% of the agro-entrepreneurs are not registered legally with the government. The informal sector dominates the markets and makes it more difficult for the government to track entrepreneurs and it eliminates the chances for the farmers to receive benefits from the government. The farmers also are in no condition to register with the government, as they do not see any incentive in the process. Registration with the government would mean compulsory payment of taxes of different kinds but there is no guarantee of benefits from formalisation. However, few farmers involved in livestock farming are registered legally and the same people have received grant amounts, subsidies of different kinds or loans from the government. This indicates that people are encouraged or compelled to register if they want the services from the government which places government in a position where it can improve its policies of incentivizing the registration process, as farmers do not see any benefit in registering because the chances of getting benefits is less and they have to pay taxes which increases their expenses.

## SUPPORTING ENTREPRENEURSHIP IN EARTHQUAKE HIT DISTRICTS

Without the registration of farmers, government cannot implement a transparent process of supporting the entrepreneurs in terms of extending support programs like trainings, providing subsidies and grants. The lack of communication from the government backed by traditional method of record keeping has landed both the government and farmers to the condition where agriculture enterprise is not able to flourish.

One of the factors which does not allow the entrepreneurs to register legally with the government is that majority of them do not have high formal educational qualification. Young people who can comprehend the language used by the government are more comfortable dealing with the government, its provision and programs, as opposed to elderly entrepreneurs with less educational qualification.



*Fig 4.1: Education level of Agriculture Entrepreneurs*

### ***Agricultural Cooperatives***

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Agriculture cooperatives have played an important role in the development of agro-entrepreneurs in different VDCs of Ramechhap district. The organized nature of the cooperatives makes it more inclusive, transparent and development oriented. Community run such forums act as an alternative source of factors of production like land, labor and capital. Cooperatives are known to provide land for cold storage of products of farmers, community labor in need and capital in terms of loans and grants. Financial access to farmers is one of the important needs; however only people involved in community operated cooperatives highlighted the importance of financial access in scaling up of production. 48% of the agro-entrepreneurs are actively involved in community-operated cooperatives.

The members of the cooperatives are keener to gain knowledge about the financial support provided by the government to cooperatives and they also believe that individual farmers would benefit from the support provided by the government to the community cooperatives.

This phenomenon demands to delve deeper in the issue of financial literacy as farmers not involved in community cooperatives did not raise concerns over financial support from the government to individual farmers. This may be the case because of lack of knowledge of business expansion and utilization of financial resources .

### **VI. Policy Recommendations**

NRA in light of supporting the agriculture enterprises of Ramechhap district should create “National Reconstruction Authority Agriculture Entrepreneurship Development Initiative” - an integrated platform for business development and assistance in collaboration with other public agencies.

## SUPPORTING ENTREPRENEURSHIP IN EARTHQUAKE HIT DISTRICTS

Considering the prevalent needs of the entrepreneurs, the government can provide short-term and long-term solutions and assistance to the farmers. The enterprise development platform should be an inclusive space which addresses the needs after the earthquake by applying innovative solutions. It could act as an information center and a semi-incubation center where specialized focus on agro entrepreneurs creates an enabling environment for the development of their enterprise.

The Agriculture Entrepreneurship Development Initiative (AEDI) can comprise of different components required for business development, which links the rural entrepreneurs to the local government for effective communication leading to evidence based transparent and inclusive facilities dissemination.

### *Infrastructure Rebuilding*

The infrastructure that agriculture entrepreneurs have is plastic tunnels which are used for growing different types of vegetables. The tunnels are made up of bamboo pillars and plastic, which prevents rain, diseases, birds and other factors from affecting the vegetables. The cost of a single tunnel is up from 30-40 thousand rupees depending on its dimensions.

However, the maintenance cost of such fragile infrastructure goes high and becomes frequent in cases of disasters like hail storm, windy season and earthquake as plastic and bamboo pillars are not very reliable in terms of being disaster resilient.

Thus, the agriculture entrepreneurs are in need of iron tunnels, made up of galvanized iron pipes and tin sheets. The cost of such infrastructure is up to 1-1.5 lakhs, which is more than double

## SUPPORTING ENTREPRENEURSHIP IN EARTHQUAKE HIT DISTRICTS

of what plastic tunnels cost. The disaster resilient characteristic and sustainable feature of iron tunnel makes it more desirable to the farmers.

❖ The AEDI can provide grants or subsidized loans to farmers to build an infrastructure for their enterprise. Agriculture cooperatives being the most proactive community-organizing platform has an important role in facilitating different plans and programs related to agriculture and enterprise development in the rural areas. Different agricultural cooperatives in Chisapani, Salu and Pakarbas VDCs had their infrastructure damaged by the earthquake, which they are not able to rebuild because of lack of capital. Many cooperatives also act as community cold storage point where the farmers store their products to keep it safe from natural hazards, animals or any other type of danger. The entrepreneurs are deprived of such facilities because of lack of suitable infrastructure.

❖ AEDI can support agriculture cooperatives to rebuild their infrastructure for their regular functioning and aid in building storage facilities in the form of subsidized loans or grants which increases community activities benefiting the farmers.

### *Improved Seed Facilitation for farmers*

There are two types of seed system in Nepal: the formal sector and the informal sector, these are also functional in Ramechhap district. Farmers producing and preserving their own seeds for subsequent planting characterize the informal seed system. The formal seed system is the organized production and distribution using agreed quality control mechanism.

The informal sector cannot fulfill the demand of the agriculture enterprise community and thus has to rely on the commercial or the formal seed sector. The farmers face problems of low

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quality seeds, which do not provide desired output. Lack of availability of seeds itself is a major problem in Ramechhap.

Farmers and entrepreneurs who were previously engaged in producing seeds have changed their path to vegetable production after the road connectivity, because the long duration crops takes more time for production of seeds hence it is more beneficial for entrepreneurs to produce vegetables instead of seeds.

❖ AEDI can support with low cost better technologies such as mechanization, high yielding and short duration crop varieties, seed insurance and credit besides market supports. All these measures will on the one hand reduce the cost of production and on the other hand allow seed growers to continue seed production along with fresh vegetable production.

❖ Provide technical support for entrepreneurs to encourage seed production and to strengthen research and development of seed products.

### *Digital Credit Rating System for agriculture entrepreneurs – enabling access to finance*

Agriculture entrepreneurs shared that access to facilities and services of the governmental and non-governmental organizations was near to impossible without having connections to political parties. The politics over the resources provided by the government has crippled three major components of our society and the way it functions. Firstly, politics has become less related to good policies and more about power, resources and nepotism in villages, which has directly affected the farming community. Secondly, the bureaucratic system also has been crippled because of politics within it and its affiliation with political parties and competition over resources, which directly impacts the resource allocation and distribution process. Thirdly, the entrepreneurs are being

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compelled to be involved in political activities to contribute in different ways in order to be eligible for the subsidies provided by the government. People with “political connection” receive the grants and subsidized loans.

The monopoly of politics over such important resource required for the development of agricultural sector has fundamentally disrupted the process of inclusive community development. This phenomenon has protected the people who are involved in corruption and has discouraged hardworking farmers who are dedicated to their work. Entrepreneurs have reported biased judgments and decisions influenced by political power which benefit people who are not even involved in agro-entrepreneurship, leaving behind the farmers who actually would have increased their agricultural productivity and would also have encouraged other farmers.

Similar conditions were prevalent in Columbia where access to financial services was very limited which left the agriculture entrepreneurs with less money to invest in their field. This happened because the money lenders relied on conventional understanding and thought there was a high risk in investment in agriculture enterprises. The digital credit rating system initiated by Grameen Bank in Columbia (Refer to Appendix 5) cleared all the myths by scientifically categorizing the farmers by using specific indicators signifying the possible credit risk.

❖ AEDI should create a mechanism to enhance mobile-enabled collection of farm level data to remedy the information imbalance between the lenders and farmers, enabling the lenders to understand the actual risk of lending to smallholder farmers.

## SUPPORTING ENTREPRENEURSHIP IN EARTHQUAKE HIT DISTRICTS

❖ The indicators determining the risk would include factors like use of fertilizers, availability of irrigation facilities, and number of temporary employees during harvesting season, trainings received and more.

The information received through this process enables transparency in credit allocation process and provides accurate information to the lenders to assess risk on investment. It also includes other relevant information on the database, which can be accessible to all and can be used by government to determine or rate people eligible for services and facilities based on transparent rating.

This process not only enables transparency but also promotes healthy competition as people would review their own flaws in work and become more competitive and perform better to achieve benefits and services.

This process on the other hand also helps business formalization. The data collected through digital methods is an asset for the government to keep track of the enterprises involved in agriculture. The government can use telecommunication channels to inform the entrepreneurs about the process and advantages of business registration, which would encourage them to register their enterprise with the concerned department of the government.

### *Assessing Agriculture insurance for farmers*

Agriculture being the primary occupation of the country, contributes largely to the economy. The development paradigm has always been revolving around agriculture as it is connected to the basic requirement of our daily lives and to the lives of people in the rural area who have been

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involved in subsistence farming from generations and have slowly moved to commercialization of their agricultural activities.

Nepal is a disaster prone country and has a record of massive disasters that have happened in the past. Such natural calamities in most parts of the county create destruction in life and property of farmers in rural areas. The only source of income from their agricultural products tends to be exposed to high risk due to natural disasters like hailstorm, landslide, floods, and earthquake. Compared to the frequency with which the disaster occurs, the ability of the vulnerable group to rebound quickly is very low. With the scarcity of affordable and suitable risk management tools when exposed to adverse shocks, low-income households may be forced to reduce food consumption, take their children out of school, and sell productive assets, which then jeopardize their economic and human development prospects.

Low-cost agricultural insurance schemes are the possible mechanisms in Nepalese context for providing social protection to the increasing number of people affected by such risks and in helping to lessen the impacts they suffer owing to such shocks. With the understanding of the need and importance of agricultural insurance, the mapping of the present challenges to it is also important.

The level of current supply of suitable agricultural insurance products and demand for same is low. In the case of livestock, after 20 years of livestock-credit insurance current uptake amounts to less than 15,000 of cattle or buffalo each year or less than 0.2% of the national herd. (World Bank Group, 2009) (p.4)

The awareness among the farmers about the importance of agricultural insurance is also a primary task at hand for the government authorities as only penetration of the program, without

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farmers understanding the incentives and benefit from the insurance, does not scale up the willingness of farmers for insurance.

Similarly, private insurance companies have limited financial capacity and are reluctant to take a lead in investing in agricultural insurance, which is seen as a high-risk class of insurance. Commercial insurers are also concerned about their ability to access international agricultural reinsurance capacity. The inability of private sector to invest in agriculture insurance has created a need of the role of government in ensuring the products of the farmers.

One of the primary reasons agriculture entrepreneurs are not involved in insurance schemes is the disaster response and relief program of the government. Different programs of government and non-government organizations tend to cover the losses of the entrepreneurs leaving the insurance scheme as an ineffective tool which requires additional investment on part of farmers. The entrepreneurs are not aware of the utilization of small amount which would channelize the government's aid to invest the relief budget in other important sectors like infrastructure rebuilding, which would eventually help their enterprise. Agriculture insurance is not only beneficial for farmers but it also has a real impact on food security.

Kilimo Salama a case in Africa shows that the weather indexing system and telecommunications has created a new dimension for agriculture micro insurance which directly benefits the farmers in disaster prone areas. (Refer to Annex 1)

❖ AEDI can promote the idea of agricultural insurance to the farmers and also take private insurance company and product insurers on board by providing incentives for both farmers and private entities like subsidizing the premium by certain percentage after the assessment conducted in a small scale.

## SUPPORTING ENTREPRENEURSHIP IN EARTHQUAKE HIT DISTRICTS

- ❖ Using technical capacity for local level crop forecasting risk assessment based on indexing weather patterns with crop yields in collaboration with the meteorological department of the government of Nepal.
- ❖ Use of telecommunication to assess the payout of the insurance and also to provide relevant information to the farmers regarding the weather for better productivity.

### **VII. Conclusion**

The disaster prone reality of Nepal leaves us with a choice of being prepared for seasonal disasters that are predictable or unpredictable. The government has initiated many research studies and amended the Disaster Risk and Management Act several times as per need. With the changing socio-economic context, the process of risk management and risk reduction should be based on evidence. The policies of the government are aimed for the benefit of the people, however, at times the policies becomes ineffective due to many reasons. The interconnected nature of policies of different agencies and department of the government supports the agenda of providing benefits to the citizens but it also creates confusions and creates obstacle when problem in the policies are not addressed by the concerned authority.

The National Reconstruction Authority has been created with a hope of rebuilding strong and sustainable communities. We can achieve this goal by creating a suitable platform for different government and non-government stakeholders to come together and solve the problems of the agriculture sector. Creating a mechanism like Agriculture Entrepreneurship Development Initiative for comprehensive studies and testing of new ideas practiced by different nations in the world would help to test the waters for prospective large investment. The government should be supportive to private sectors as the construction of a cohesive economic system is possible only after a collaborative effort of these important sectors.

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Annex 1

**Kilimo Salama**

Kilimo Salama (“Safe Agriculture”) is an insurance designed for maize and wheat farmers in Kenya so they may insure their farm inputs against drought and excess rain. The product is being available to farmers in five regions across Kenya: Bungoma-Busia, Oyugis-Homa Bay, Nanyuki-Timau, Embu and Eldoret.

Kilimo Salama’s design is based on the lessons learned from a pilot in Laikipia district, where several hundred maize farmers insured their farm inputs against drought in the long rains season of 2009. Following the drought that season, weather stations showed that there was a payout and all farmers were compensated depending on the extent of the drought as measured at their weather station (a 30 percent and 80 percent payout, respectively.) The pilot was the first of its kind in Kenya.

Pay as you plant, type of insurance offered by the project allows farmers to try out insurance, a product they have never bought before and which has a negative reputation in Kenya. Experience shows that as farmers learn to trust insurance, they expand their coverage and are comfortable investing more in their farm, raising their productivity and increasing their food security.

Kilimo Salama is made affordable through partnerships with agri-businesses who sponsor half of the premium’s price, leaving the farmers to pay 5 percent on top of the cost of the inputs, a first for agricultural micro insurance.

**Weather Index Insurance Contract**

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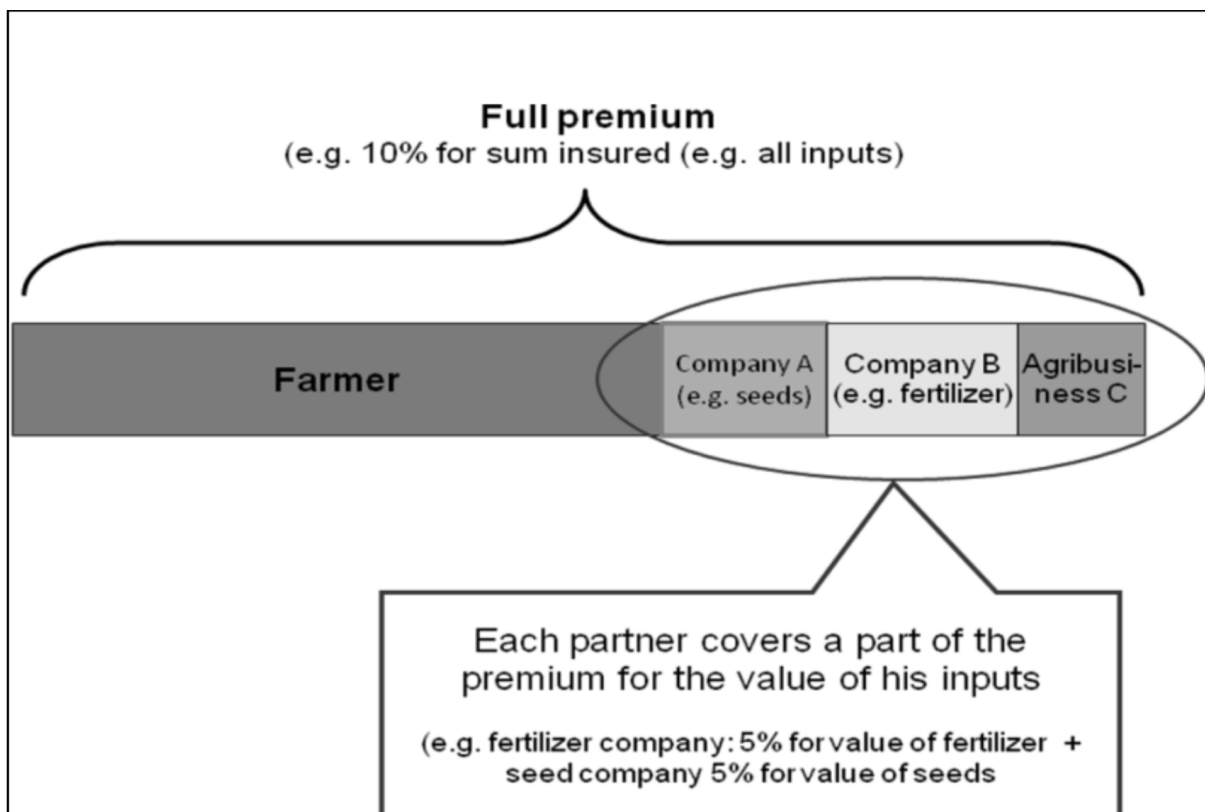
For Kilimo Salama, tried and tested index insurance contracts were used. These contracts were adapted to the Kenyan climatic characteristics and planting practices by the Syngenta Foundation's maize and wheat experts. Such contracts rely on historical data sets, generally consisting of between 20 to 30 years of weather data. The historic data sets are combined with agronomical data on crop development, and international reinsurers price the risks by combining these two.

### **Kilimo Salama has affordable premiums through partnerships with the private sector.**

The first and simplest approach to make the insurance scheme more effective is to lower the premium price. While this can be done, it has a direct and negative impact on the scope and value of the insurance coverage.

A second way to lower the cost of premiums is to subsidize agricultural insurance, either by government or by a donor agency.

The third solution is to develop an arrangement where the premium is shared between different parties, all of which are interested in the farmer not losing income in case of adverse weather events. A "premium sharing arrangement" entails that each party pays part of the premium according to his vested interest, as illustrated in the figure below.



**Weather stations are used for monitoring as well as tailored extension messages.**

These weather stations ensure timely collection and reporting of weather data. Having these fully automated weather stations means that both the insurer and the international reinsurers can feel comfortable with the measurements being taken and can have the assurance that the data is available in time.

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Installing the weather stations furthermore means that up-to-date full climate data is available to farmers. This full set of weather data (rainfall, temperature, wind speed, sunlight) allows for prediction of incidence of diseases, such as blight or aflatoxin, and other potential risks. This information, in combination with the knowledge about farmers' proximity and mobile numbers, enables farmers in Kilimo Salama to receive up-to-date text messages that will enable farmers to improve their practices, consequent productivity, and food security in years when rains are good.

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