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RAPID RESPONSE SURVEY: THE IMPLICATIONS OF COVID - 19 LOCKDOWN ON FARMING SECTOR OF NEPAL

May 2020

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Executive Summary

Nepal went under the nationwide lockdown starting from 24th May 2020 to arrest the spread of COVID 19. There have been numerous indications across the world that farmers and agriculture sectors which employs large populations are going to be affected. At the same time agriculture is considered one of the top priorities among the nations for employment and reviving the rural economy. However, policy and financial responses that are developed through a top down approach, seems to have a limited reflection on how farm sector are getting impacted. The rapid survey conducted during the month of May 2020 is an attempt to get a first-hand, quick, and directional assessment of the situation within the sector as perceived and experienced by the farmers. This report gives a quick insight from the farmers perspectives to provide an in-depth understanding of the ground reality across Nepal. The analysis is presented in three broad sections, impacts on farm operation, input and output market price fluctuation, and farmers coping mechanism vis-à-vis expectation from the government.

The government's policies and programmes for fiscal 2020-21 gave particular focus to the agriculture sector with food being classified as 'most essential' during the Covid-19 lockdown. This includes implementing contract farming, increase employment, minimum price rate, promote the dairy sector and establishing factories to providing fertilizer and seeds to farmers in a timely manner. However, a lack of focus was largely felt on increasing productivity, setting up storage facilities, efficient supply chain and agro-processing centre during lockdown by the farmers.

There is overwhelming support shown by the farmers towards the lockdown as means of controlling spread of COVID by the government. The farm level, everyday operations are less affected. This is also partially because the current season constitute mostly growing phase where farm activities are relatively less intense or less labour intensive. This might change as the harvest season approaches. Little support that the farmers are receiving at present is mostly coming from the AgroVet shops (a small kiosk selling agriculture tools, and input supplies) followed by small support coming from the local governments.

Foreseeable delay in supply of agriculture inputs including seed and fertilizer is a major pain point as all kind of supply-chain operation are impacted during initial period of lockdown. Likewise, the prices of the input supplies have generally gone up. On the other hand, majority of produce like vegetables, livestock, cereals etc. have seen drop in demand whereby farmers are not able to sell the produce. Transportation of agriculture inputs (seed, fertilizer, pesticides) and closure of input shop (AgroVet) woes farmer's productivity. However, some of the farmers started using additional organic manure and pest control options that can be considered as a positive practice. Access to inputs, advisory services, credits, and cash are reported to be the biggest challenges farmers are facing during the lockdown. Simultaneously, costs of these services have also gone up, which is expected to increase further if the lockdown continues over the next six months. On expectations from the government and private sectors, farmers largely emphasized the need for subsidized credit during the lockdown from government or banks. They further asked for support on advisory and insurance services.

Majority of farmers indicated that they are very concerned about the sustainability of their individual agriculture enterprise. Given the drop in additional income from the remittance, less scope for agriculture area expansion due to availability of seed and fertilizer coupled with infusion of migrant labour-, and constant or drop in selling prices, sustainability might get further affected in agriculture sector. Owing to inherent challenges, further aggravated by the COVID crisis has put a tremendous stress on already vulnerable sector. The policy response needs to consider these challenges indicated by the farmers.

1. General Overview

COVID-19 and measures taken to control the pandemic are having a crippling effect on health and economic systems across the globe (Bartik et al. 2020; Baker et al. 2020; MoALD, WFP, and Australian Aid 2020). The COVID effect has been gruesome to the agriculture section, specifically to the farmers. As reported by various print media, farmers who usually make a good return from vegetable and milk sales, are now being forced to dump their products as there are limited buyers in the market (The Himalayan Times 2020). There is limited reporting on a systematic basis to understand the perception, challenges, and mitigation measures adopted by the farmers during these trying times.

As a response to this gap, a rapid survey was executed with the objective to understand how the COVID – 19 outbreak and the nationwide lockdown imposed by Government of Nepal since 24th of March 2020 (Kathmandu Post 2020) is impacting individual farmers across Nepal.

Considering the growing concerns and uncertainty around the COVID pandemic, this assessment was aimed to provide preliminary information on impact on the lives of the farmers and how supporting agencies, both private and public, could intervene to extend much needed support to the dairy and vegetable sectors.

A telephone based rapid survey was conducted from 3rd May to 14th May 2020 with target of 400 farmers across the country. The observed response rate has been lower than expected, however, 77% farmers, totalling 309 responded to the survey. The low response rate is because of limited cell phone network, respondent's availability or that the mobile was turned off during the working hours, a common practice in remote areas due to electricity shortage.

These interviews were conducted, both in urban and rural municipalities, across selected 27 district of Nepal. Among those interviewed, 72% were female while 28% were male respondents.

A preliminary analysis and findings are presented below. They are categorized in three broad sections, i) Support provided by Government and relevant agencies ii) Effects on farm operation, sales prices, extension services and access to inputs/market, and iii) Coping mechanism and labour. By no means is this the final or a complete picture of the prevailing crisis, with further analysis of existing data, and with changes in everyday circumstances, these situations are expected to change. Thus, a second round of interview, in an extended lockdown scenario might provide further lights on ever evolving situation. Furthermore, since the end of the interview, government has initiated several measures, their effectiveness would require to be recognised.

2. Support Provided by Government and Relevant Agencies

The overwhelming majority of farmers, more than 86%, completely agree towards lockdown as a response imposed by the government to control COVID spread in the country. Of the remaining 12% somewhat agree while 2% somewhat disagree.

Agriculture Ministry has directed the local government to provide suggestions on the purchase of agricultural produces, use of barren lands, and roles of provincial and federal governments and local levels to minimize the impact of COVID lockdown on overall agriculture sector.

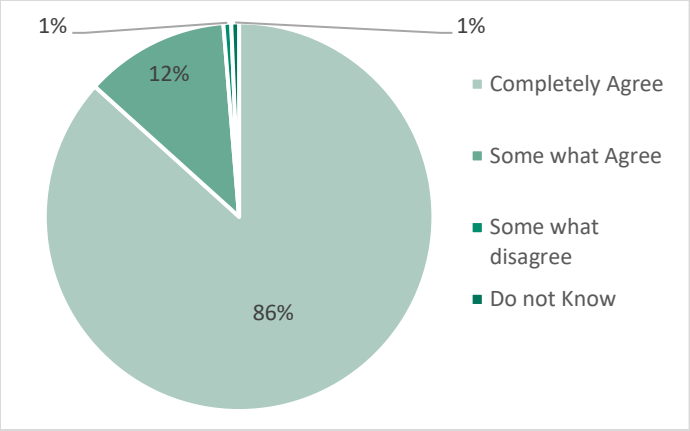

Figure 1 Response to the lockdown imposed by Government of Nepal

On the primary question of whether farmers were receiving support from the government, more than 80% responded negative, with roughly 12% indicating support received from the local Government.

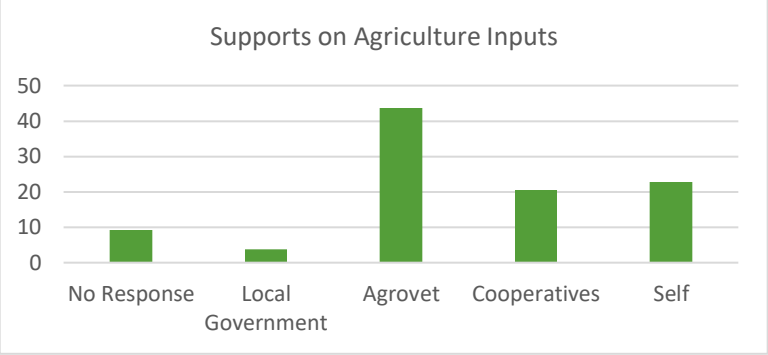

Figure 2 Support received from Government and Stakeholders on inputs

As indicated in the Figure 2, when asked, how individual farmers are receiving agriculture inputs like seed, fertilizers and pesticides, 44% of respondents source it from Agrovet shops, while 20% from farmers' cooperative, 4% local government and 23% of the farmers are using their own manure and bio-pesticides produced at the farm.

The importance of agrovet as an interim support system is visible, especially because not all the municipalities have local government with capacity to provide agriculture input support neither availability of manure nor bio-pesticide is enough at required scale. Wherever such government agencies are present, current priorities of most of the agencies is on public health and containment of the COVID in their respective territories. Among the self-support farmers, it may also change over the next phase of the farm operations where they might seek additional support. It is paramount that the capacity of agrovet and cooperatives be strengthened, both at the policy and the technical front, so that larger number of farmers can continue to operate farms amidst lockdown.

"The Corona virus has hurt our farming operation. Input supplies businesses have been closed down and we are unable to find quality seed and fertilizer." – 68-year-old female from Kanchanpur bhimdata

"Most of the agrovet shops are closed and we are not prepared with organic manure nor will it respond as quickly in already deteriorated soil" in response to why their production will decrease" - 49 year old female from Baijanath, Banke.

3. Impact on Farm Performance

Among the respondent, it is found that an individual farmer is engaged in multiple farming businesses as shown in the table below, with 78.9% in vegetable, 28.2% in Cereal crop, 66.6% have livestock, 13.6% are also producing dairy products while 19.5% are engaged in farming for own consumption only.

Table 1 Types of farms that the respondent operates

Farm type	Frequency	Percent	Cases %
1. Own consumption only	60	9.4%	19.5%
2 Vegetable	243	38.1%	78.9%
3 Cereal/pulses	87	13.7%	28.2%
4 Livestock	205	32.2%	66.6%
5 Dairy products (Milk, yogurt)	42	6.6%	13.6%
Total	637	100.0%	206.8%

3.1. Level of disruptions on day-to-day farm activities

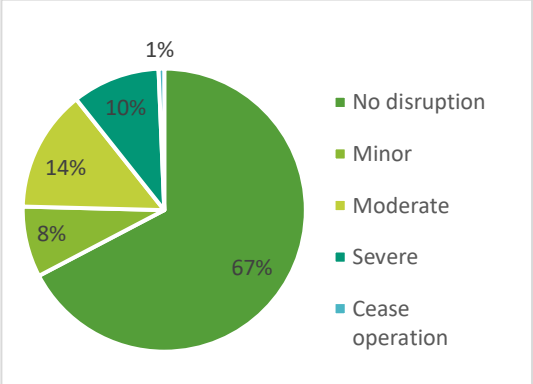

Figure 3 Level of Disruptions in day-to-day farming activities during the survey period

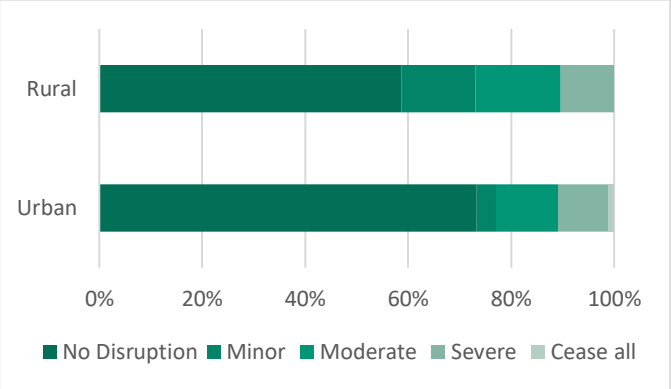

Figure 4 Level of Disruption in farming activities seen in Rural and Urban Farmers

Figure 3 shows 5 categories of disruptions levels for everyday farm activities such as herding, rearing in case of livestock and agriculture such as weeding, irrigation, earthing up and blanching, as experienced by the farmers, while the Figure 4, plots the same across rural and urban farmers[1]. The five disruption categories as : i) No disruption –farming business as usual (67%); ii) Minor disruption – we can work around the issues we are facing (8%) iii) Moderate disruption– some operations are curtailed, but we are still working (14%) iv) Severe disruption – a significant portion of our farm enterprises are not functioning (10%) v) We have had to cease all operations (or will do so imminently) are 1%.

There has not been substantial disruption in everyday farming activities due to COVID during period of lockdown from 22 March to 14 May, 10% of the respondents indicated having severe disruption due to

[1] Based on government classification of rural and urban municipality

COVID as seen in both urban and rural municipalities while 1% of respondent have fully ceased their operation in urban municipality. These may be early indication towards impact on the ongoing farm activities. Furthermore, the survey period (April-May) coincided with the growing season of vegetables in many areas of the country. Most of the respondent are receiving helping hands from their neighbour or friend in the farm i.e. their current business is as usual, might be the reason most respondents reported higher % for 'No disruption' at the farm activities level.

3.2. Impact on Produce Selling Prices and mode of transactions

What price are you getting for produce you sold as compared to same time last year?

Among the farmers who grow vegetables (Figure 5), 45% are not able to sell their produce at all, while 23% of the farmers are selling produce at par with the prices as compared to last year, 19% are selling at higher rate and 13% of farmers are selling at lower rates. The alarming situation is explained due to halted movement of delivery services or general lack of demand in local and national markets. Likewise, the livestock industry has taken a hit with over 46 % respondents (Figure 7) indicated their inability to sell the products. This is coinciding with the concerns of hygiene and perceived origin of virus through the animals that results in drop in meat consumptions. The farmers who produces cereals and pulses have also indicated that they are not able to sell their products (Figure 8). It is difficult to arrive at the explanation since the data on import and export of cereals and pulses is yet to be published by the state authority.

On the contrary, selling price for milk (Figure 6) largely seems to have remained constant with over 80% responding same price as last year.

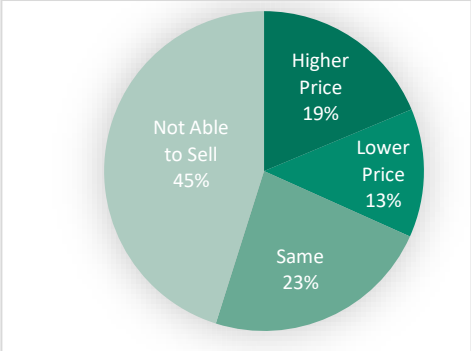

Figure 5 Farmgate price for vegetables

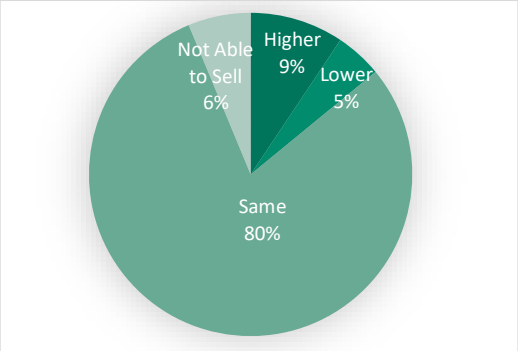

Figure 6 Farmgate price for milk

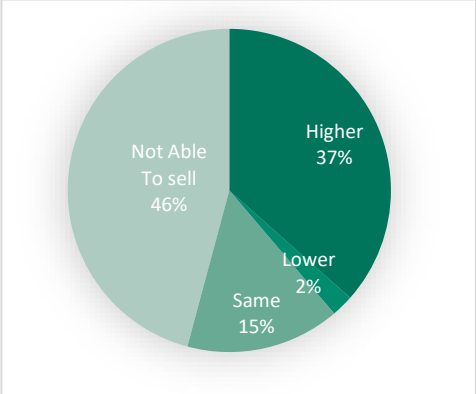

Figure 7 Farmgate price for livestock

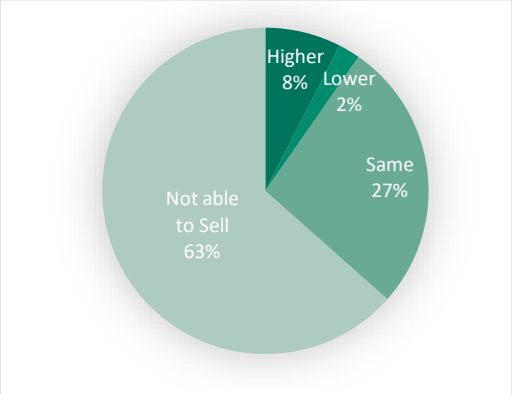

Figure 8 Farmgate price for cereal crop

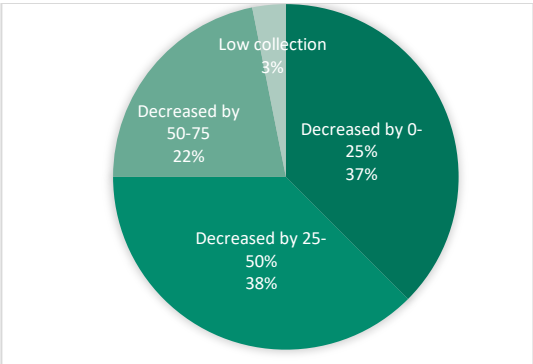

Figure 9 Produce sold as compare to same time last year

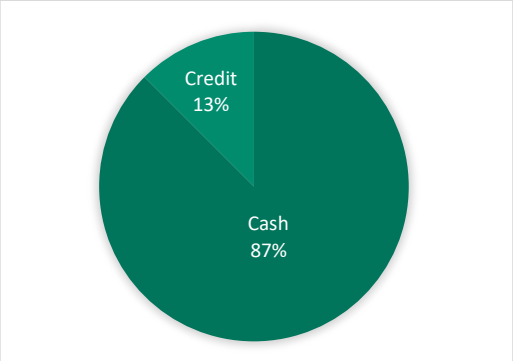

Figure 10 Mode of transaction

Among those who reported lower prices i.e. 13 % in Figures 5, we further asked , quantity of produce sold as compared to same time last year (Figure 9), 37% of respondent indicated decreased by 0-25%, 38% of respondent indicated decreased by 25-50%, 22% respondent decreased by 50-75% while 3% of respondent indicated that no production to sell.

For the payment gateways, a signification number of transactions i.e. 87% are cash based and 13% are in the form of credit (Figure 10). This is a common trend among the rural and urban farmers of Nepal given inadequate digital and financial literacy as well as trust deficit in the digital finance technology.

This survey coincided with the growing season with harvest soon beginning in many areas of the country. With the arrival of the harvest, these figures are expected to change.

3.3. Impact on Agriculture Production

Similarly, 54% of the respondent predicted that their production will decrease, while 35% indicated no effect (Figure 11). The main reason, however on the reduction of the production is due to weather 35%, while 29% indicated due to COVID (Figure 12). These two reasons combine explains the production decreased as per the farmers. Among these respondents, 97% are extremely concerned for their farm operational sustainability if lockdown continues over the next 3-month period.

There are likely chances that the farming sector as a whole will be pushed further towards negative growth if situation on production, delivery and fair market prices does not improve.

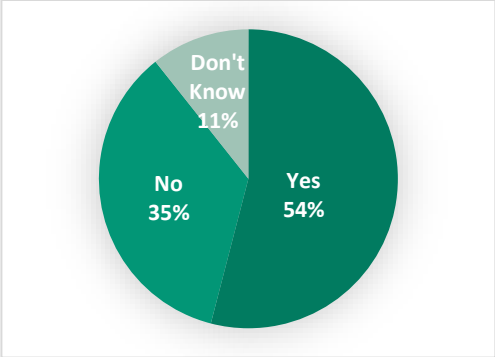

Figure 11 If farmers perceived decrease in production this year

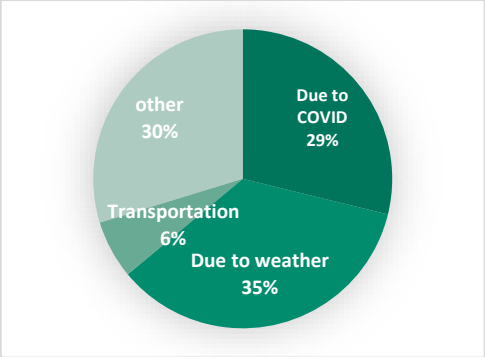

Figure 12 Perceived Reasons for decrease in production

3.4. Types of Challenges being faced by farmers

Low availability of farm inputs, advisory services and access to market has hit hard on farmers everyday operational activities, which is expected to affect the productivity of the farm. Below graphs shows how farmers have faced difficulties at farm level operations.

As indicated in Figure 13, 11% of farmers have challenges with regards to availability of labour, 17% on mechanization, 11% on cash flow and 25% on access to credit issue. Out of 11% of respondent who indicated shortage of farm labour, on asking why there is a shortage on labour? The farmers cited various perceived reason. 78% farmers said that labours are afraid of getting infected, 58% due to restriction in their movement and 3% reported reason could be that they have to take care of family/children at home.

However, farmers' main operational challenges are in non-farm activities and receiving services such as - 58% on input supplies, 55% on transportation, 70% on advisory services, 54% on access to the market.

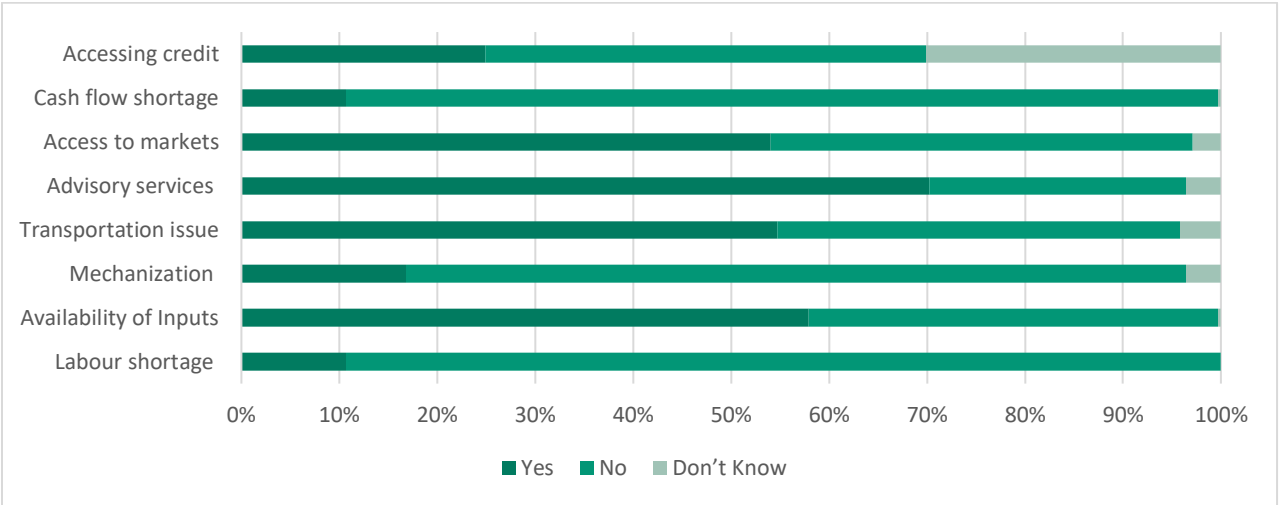

Figure 13 Difficulties faced during survey period

Similarly, when asked if lockdown continues for another 3 additional months, labour force impacts were not disproportionately worse as compare to current situation (Figure 14). Only 18% are affected by labour shortage, 32% on mechanization, 20% on cash flow and 28% on access to credit issue. However, their main operational challenges remain as similar to current situation which continue to increase - 77% on input supplies, 70% on transportation, 83% on advisory services, 70% on access to market.

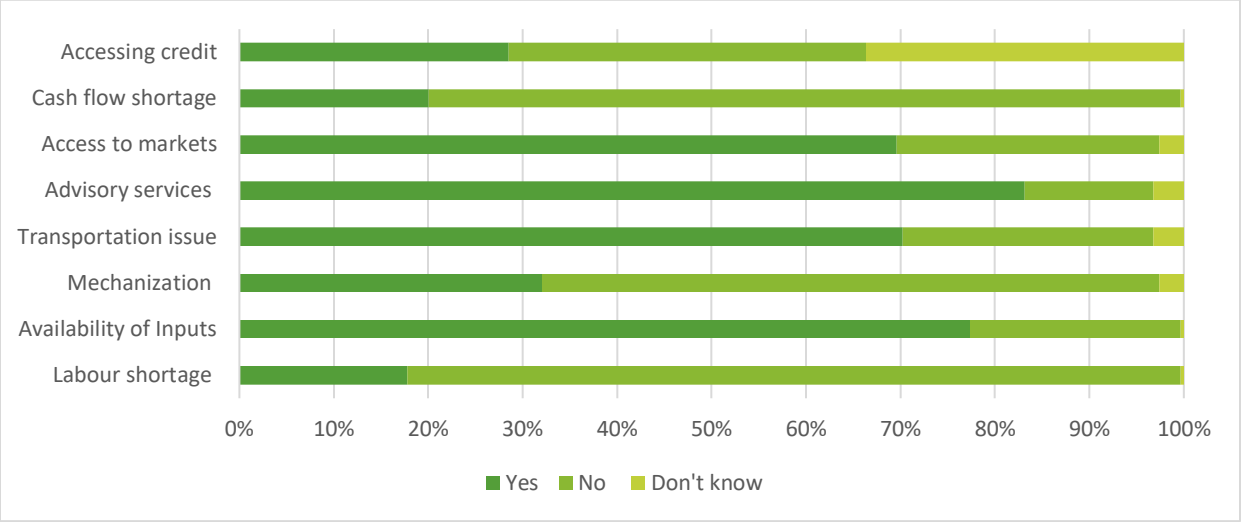

Figure 14 Difficulties faced if Lockdown continues beyond 2-3-month period

3.5. Impact on Cost of Services

Substantial number of respondents experienced an increase in the cost of input and supplies i.e. 63% in seed and fertilizer while 11% respondent indicated increase in transportation (Figure 15). The cost associated with the advisory services and labour force have remained unchanged during the lockdown.

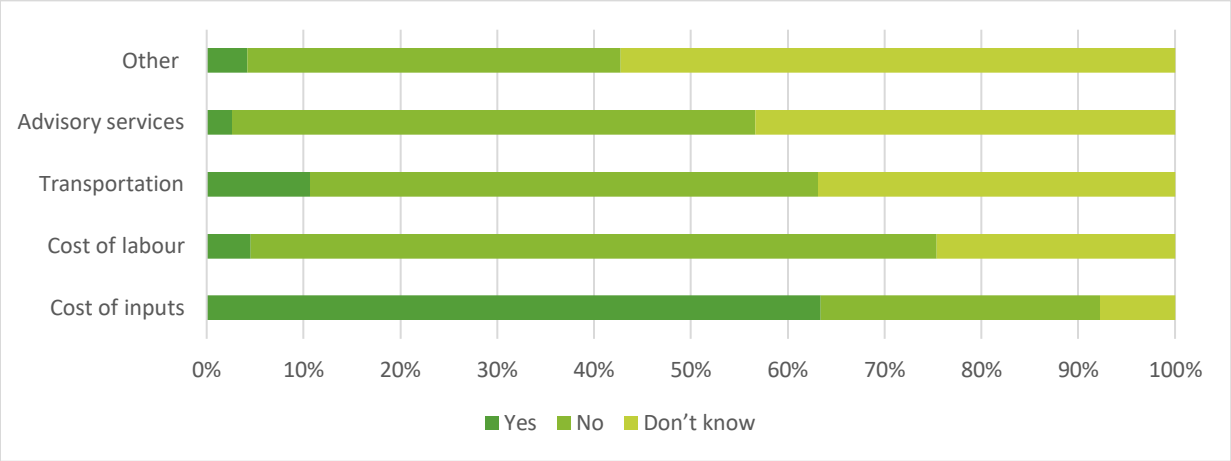

Figure 15 Respondent experiencing increase in cost of services

"We are not able to get adequate advisory services especially in the case of pest and disease" – 34 year old female from Nuwakot District.

"Production of vegetables is only to fulfil family needs during this lockdown", Sushila Tamang from Rasuwa District

"The construction sector is closed, so no more jobs available." - 28 year old man from urban municipality in response to question on why he is not working.

4. Coping Mechanism and Migration

4.1. Priority of Support

As shown in below figure, 86% of respondent are seeking for 'subsidized credit' from government or external support if lockdown continues for next 3-6 month. Similarly, largest share of respondent (40%) seeks supports evenly split between 'regular advisory services' and 'easy insurance policies' while 20% for credit facility and buy back guarantee.

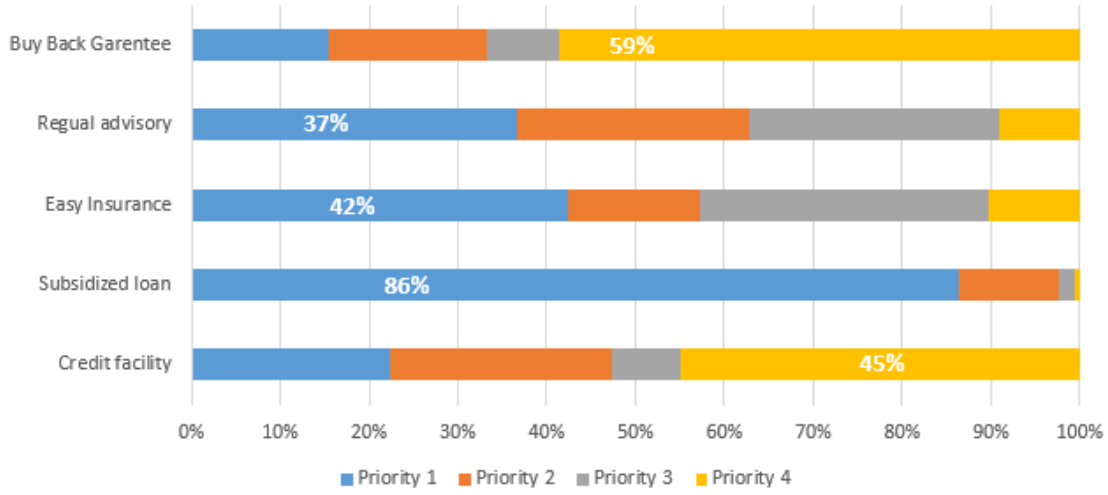

Figure 16 Figure: Priority areas of respondents seeking Government or external support

4.2. Plan if lockdown continues

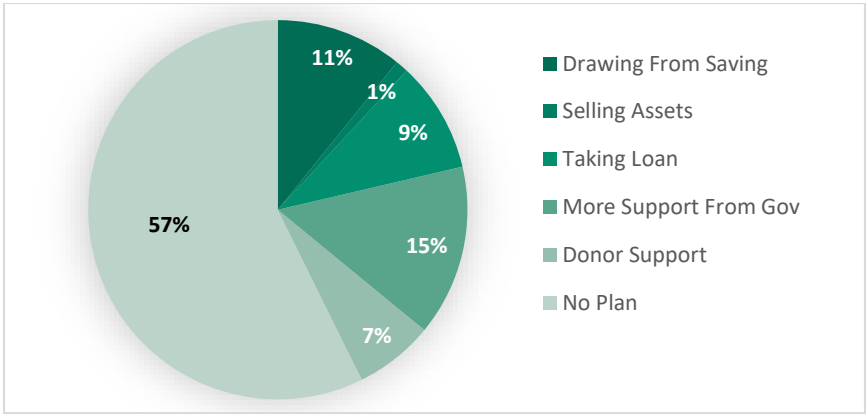

Figure 17 Coping Mechanism or alternative Plan if lockdown continues for longer period

Most of the respondent i.e. 57% do not have any plan if lockdown is extended or continues for longer period. Only 10% each are planning to take loan or draw from savings. Remaining 15% are relying support provided by government and 7% from development sectors or project. Among others 1% are planning to sell assets.

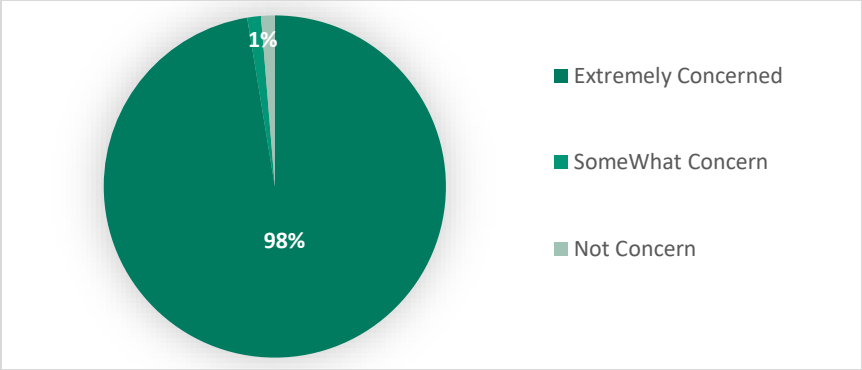

Figure 18 Level of Concern on farm operational sustainability

98% of the respondent are extremely concerned when asked, if level of concern for your farm operational sustainability over the next 6 months (Figure 18)

4.3. Migrant workers

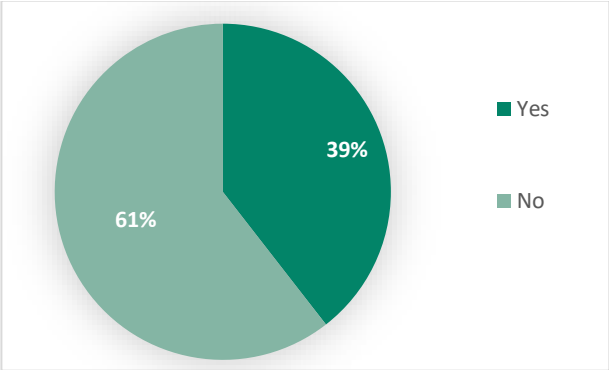

Figure 19 Percent of migrate worker

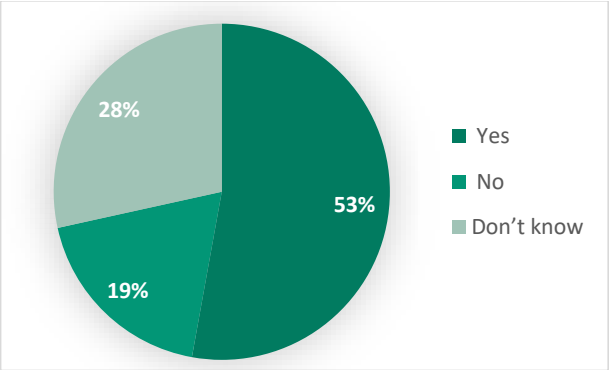

Figure 20 Percent willing to work in agriculture sector

61% of farmer's household member(s) are working outside the village (to city or outside country) who want to remain in the village. Out of which 53% wants to work in agriculture sectors while 19% do not want to and 28% do not know if their returnees wish to work in the agriculture. (Figure 19 and 20)

5. Conclusion and Recommendations

The rapid assessment has highlighted concerning situation on the overall agriculture and livestock sector. Even though the farmers have shown remarkable resilience towards the nationwide lockdown, the direct and indirect impact within agriculture sectors is expected to get harder with time, especially when supply chains and labour mobility is disrupted. It is foreseen that thousands of Nepalis abroad and inter-district (in-migration) or reverse migration are likely to lose their jobs. It will be important to strengthen the sector so that the returning population can be absorbed. Most of the farmers emphasized the need for advisory services as a crucial support needed during the growing phase, as most of the crops are vulnerable to pests' attack and diseases. Currently farmers are receiving support through agrovet shops, extending technical support to agrovets would prove effective. Digital platforms that provides verified solutions on farming issues could prove to be highly effective during the lockdown and beyond. Farmers are unable to sell their produce and many farmers' products are being wasted owing to limited transport during the lockdown. However, some are managing to sell their produce within the local community, and very recently through agents. Large respondent felt that having processing and storage centre at community level could have been useful to store and/or value added for unsold produce during crisis. From the analysis, it is clear that strategic interventions, responses from the public and private sectors should be on agriculture extension services, optimising norms on delivery mechanisms, and streamlining access to market. The private sector including financial sectors, could play role to develop new credit packages targeted at the farming sectors.

6. Further Analysis and Questions

Given the limitation of time and resources the study is inadequate to address further key questions and come up with detailed evidences to inform policy interventions. However, the rapid study indicates preliminary impacts during the crisis phase. Given possibility of extended recovery phase of the crisis, a timeseries data analysis on similar questions would provide deeper insights. The study could be augmented further by looking at the questions,

1. Which categories of farmers are most vulnerable, small land holders? Vegetable producers, cereal, dairy producers or livestock? Who should be a policy intervention target?
2. What are immediate, short-term and mid-term policy interventions required to address the challenges faced by the farmers
3. Will the existing agriculture landscape be able to absorb the returning migrant population, what will be the mainstreaming pathways?
4. How can digital agriculture infrastructure be developed to extend support to farmers and agriculture enterprise at large in Nepal?

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Annexure I: Methodological Annex

The farmer's survey was initiated to estimate the socioeconomic impact of the Covid-19 lockdown. The first round was conducted from May 3 through May 14. This note describes the survey methodology underlying the data collection and analysis.

Sample Design

Here we have total around 170000 farmers, 60000 from rural Nepal and 110000 from Urban Nepal. These farmers were selected from 26 different districts. For the selection of sample of farmers, we firstly determine the ample size by using proportionate stratified sampling method and then each sampling unit will be selected by using simple random sampling method. At first 10% of sample from each urban and rural Nepal by using the following formula

$$n = N*X / (X + N - 1),$$

Where,

$$X = Z\alpha/22 *p*(1-p) / MOE2$$

and Zα/2 is the critical value of the Normal distribution at α/2 (for a confidence level of 95%, α is 0.05 and the critical value is 1.96), MOE is the margin of error (5%), age of picking a choice, and N is the population size. Each district was considered as a stratum then the farmers will be selected from each stratum by using the following method

$$nh= (Nh/N)*n$$

Where, nh is sample size of each stratum, N is population size, n is sample size and Nh is population size of each stratum.

Questionnaire Preparation and Implementation:

As the survey was being administered over the mobile phone, the targeted length was 10 minutes. However, it took 14 minutes in average as respondent were also actively asking questions on our objectives and sharing their stories. The actual survey was conducted in the period of May 3, 2020 to May 14, 2020, with key survey questionnaire focusing on agricultural and livestock impacts, including response by Government and Stakeholders, issues related to farm operation, market condition, availability of extension services and access to inputs/market; and coping mechanism and migration.

The survey was implemented using GeoKrishi call centre having experience in working closely with farmers. Three call agents were deployed to make calls by briefly explaining our motives. Two interactions were made to finalize the questionnaires in close collaboration with relevant agriculture and agro-economist.

The open data kit (ODK) mobile app was developed so that call agents do not have to be online at the time of collecting data. All the responses were recorded on private cloud-based server. In addition, ODK app provides different features like skip logic, table first level preview of submitted data, form validation and so on which reduces the error margin during collection of data. Further ODK briefcase-compatible data output with push/pull support provided easy migration options to be able to export data in to relational database management system or statistical tools for more complex analysis.

Overall the response rate was lower than had been targeted during the design phase. The first round resulted 45% successful calls. Following the results from this round, the team decided to

Implement a test for the non-responding (switched off, not received) farmers in the first round of data collection, while few numbers were wrong numbers. The second list of farmers were assimilated to meet the sampling requirement.