

CZECH UNIVERSITY OF LIFE SCIENCES PRAGUE

Faculty of Tropical AgriSciences

**Landscape characteristics and socio-ethnic
factors influencing farmers' attitudes towards
adopting agroforestry in Nepal**



**Faculty of Tropical
AgriSciences**

MASTER'S THESIS

Prague 2023

Author: Mitchell Collins

Chief supervisor: Ing., Dr. sc. agr., Dr. sc. habil Miroslava Bavorová

Second (specialist) supervisor: Ayat Ullah

CZECH UNIVERSITY OF LIFE SCIENCES PRAGUE

Faculty of Tropical AgriSciences

DIPLOMA THESIS ASSIGNMENT

Bachelor of Science Mitchell Collins, BS

International Development and Agricultural Economics

Thesis title

Landscape characteristics and socio-ethnic factors influencing farmers attitude towards Agroforestry adoption

Objectives of thesis

1. Farmers' perspectives on factors that affect their decisions on Agroforestry
2. Effect of landscape characteristics on Agroforestry
3. Effect of socio-ethnic factors on Agroforestry

Methodology

Study Area:

Three different agroecological regions of Nepal. Mountain region (Mustang District), Hilly Region (Baglung District), and Terai/Plain region (Chitwan District)

Data Collection:

Data will be collected through a questionnaire survey from three different agro-ecological regions of Nepal. The expected sample is 350-400 within all three regions. The development of the questionnaire will be derived from literature reviews and related theories.

Sampling Technique:

Our data will be collected in the multistage sampling method. The three agro-ecological regions are selected purposively and 350-400 smallholder farmers will be interviewed randomly.

Data Analysis

Econometrics analysis such as logit and multinominal model will be used. Data will be analyzed via Excel and SPSS.

The proposed extent of the thesis

50

Keywords

Nepal, climate change, farmers, agroforestry, landscape

Recommended information sources

Adoption of agroforestry practices in Bangladesh as a climate change mitigation option: Investment, drivers, and SWOT analysis perspectives. *Environmental Challenges* 7.

Bruck SR, Kuusela OP. 2021. How health and market access associate with agroforestry adoption decisions: evidence from Tabora, Tanzania. *Agroforestry System* 95:1073–1086.

Dhungana N, Silwal N, Upadhaya S, Khadka C, Regmi SK, Joshi D, Adhikari S. 2020. Rural coping and adaptation strategies for climate change by Himalayan communities in Nepal. *Journal of Mountain Science* 17:1462–1474.

Karki S, Burton P, Mackey B. 2020. Climate change adaptation by subsistence and smallholder farmers: Insights from three agroecological regions of Nepal. *Cogent Social Sciences* 6: 1-23..

Tiwari KR, Rayamajhi S, Pokharel RK, Balla MK. 2014. Determinants of the Climate Change Adaptation in Rural Farming in Nepal Himalaya. *International Journal of Multidisciplinary and Current Research* 2:234-240.

Expected date of thesis defence

Master's Thesis – SS 2022/23 – FTA

The Diploma Thesis Supervisor

doc. Ing. Miroslava Bavorová, Ph.D.

Supervising department

Department of Economics and Development

Electronic approval: 16. 3. 2023

doc. Ing. Miroslava Bavorová, Ph.D.

Head of department

Electronic approval: 3. 4. 2023

prof. dr. ir. Patrick Van Damme

Dean

Prague on 21. 04. 2023

Appendices

List of the Appendices:

Appendix 1: Questionnaire

Appendix 1: Questionnaire

Dear Sir/Madam,

Namaste,

I would like to ask you to fill in the following questionnaire. I am a Ph.D. student at the Czech University of Life Sciences Prague, Czech Republic. I am conducting this study to learn more about the “*Effect of climate change on food security of smallholder farmers in Nepal and on migration* “. All the data are collected anonymously. I would appreciate it very much if you would fill in and help me to conduct this research. Thank You!

ID number (M/D/C M= Mustang, B=Baglung, C= Chitwan)	.....
Name of the respondent	.....
Phone number/email	.....
Rural Municipality name and ward number	.....
Date of the interview	.....
Geographical coordinates/ Altitude	.....

Section A: Household section- Socio-economic characteristics

No.	Questions	Responses
1	Sex of the HH (Household Head)	Female <input type="checkbox"/> =0 Male <input type="checkbox"/> =1
2	Current age of HH (in years) Age Category, less than 20, 21-30, 31-40, 41-50, 51-60, 61 and more	.....
3	What is your highest education level?	Nonformal <input type="checkbox"/> =1 Primary <input type="checkbox"/> =2 Secondary <input type="checkbox"/> = 3 Higher Secondary <input type="checkbox"/> =4

		Undergraduate <input type="checkbox"/> = 5 Postgraduate <input type="checkbox"/> =6
4	What is your marital status?	Single <input type="checkbox"/> =1 Married <input type="checkbox"/> = 2 Divorced <input type="checkbox"/> =3 Widowed <input type="checkbox"/> =4 others .....=5
5	What ethnicity do you belong??	Kshetri = 1 Brahmin = 2 Magar =3 Tharu=4 Tamang=5 Newar=6 Sherpa=7 Gurung =8 Thakali=9 Dalit=10 Rai=11 Madeshi=12 Others=13
6	What is your household size (in persons)?	.....
6a	Total number of Children (<15 years):	
6b	Total number of adults (16-59 years): active labor	
6c	Total number of adults (>59 years):	
6d	Total number of males in household	
6e	Total number of females in household	
7	How long have you been working as a farmer? (years)	
8	Are you involved in some farmers group (Krishi samuha)?	Yes <input type="checkbox"/> =1 No <input type="checkbox"/> =2
8a	If yes, what kind of group it is?	Producer <input type="checkbox"/> =1 Processors <input type="checkbox"/> =2 Marketing <input type="checkbox"/> = 3 Multipurpose <input type="checkbox"/> =4 Others (specify) .....=5
9	Do you own land?	Yes <input type="checkbox"/> =1 No <input type="checkbox"/> = 2
9a	What is the total amount of land your household owns now (ha)? (1 Ropani=0.050873704704 hectare)	.....
9b	What is the total amount of land your household cultivated (both owned & rented) (in ha) this year?	.....
9c	What is the total amount of land your household use for pastoral (both owned & rented) (in ha) this year?	.....
9d	What is the land you cultivated 5 years ago?	More than now=1 Less than now=2 Equal as now=3 N/A=99

10	What type of farming you have?	Arable farming (Crops) <input type="checkbox"/> = 1 Pastoral farming (Livestock) <input type="checkbox"/> =2 Mixed farming (Arable & Pastoral) <input type="checkbox"/> =3	
10a	Please indicate what are the major crops you cultivated in last 2-3 years?	Main crops	In %
		Rice=1	
		Wheat=2	
		Maize=3	
		Millets=4	
		Barley=5	
		Buckwheat=6	
		Oats=7	
		Potato=8	
		Beans=9	
		Vegetables=10	
		Fruits=11	
		Others=12	
10b	How is your food production compared to 5 years ago?	Less now =1 More now=2 No difference=3 Don't know=4	
10c	Please indicate what are the major livestock you have?		Number
		Livestock	.....
		Cattle <input type="checkbox"/> =1	.....
		Yak/nak <input type="checkbox"/> =2	.....
		Horse/ Mule <input type="checkbox"/> =3	.....
		Goat/Sheep <input type="checkbox"/> =4	.....
		Buffalo <input type="checkbox"/> =5	.....
		Pigs <input type="checkbox"/> =6	.....
		Chicken <input type="checkbox"/> =7	.....
		Others.....=8	

Section B: Access to credit & market

1	How do you finance investment in your farm in last year? (Multiple choice allowed)	Family saving <input type="checkbox"/> =1 A loan from bank/Government <input type="checkbox"/> =2 Borrow from friends and relatives <input type="checkbox"/> =3 Farmers Group <input type="checkbox"/> =4 Non-profit organizations <input type="checkbox"/> =5 Remittances <input type="checkbox"/> =6 Family saving/ remittance= 7 family saving/Farmers group=8 Family saving/Borrow from friends and relatives=9 Family saving/ loan from the bank and government=10 Others (please specify) Labor work= 11	
1a	What share of the household income do you get by your farm (in%)?	0-25% <input type="checkbox"/> =1 26-50% <input type="checkbox"/> =2 51-75% <input type="checkbox"/> =3 76-100% <input type="checkbox"/> =4	
2	Do you have off-farm occupation?	Yes <input type="checkbox"/> =1 No <input type="checkbox"/> =2	
2a	If yes, what are the major off-farm activities?	Activities	income share (%)
		Self-employed (Permanent work) =1	.....
		Self-employed (temporary work) =2	.....
		Retailer=3	.....
		Labor work=4	.....
		Administrative(office) work=5	.....
	Others=6	.....	.....

How often did this happen?		Never =(1)	Rarely (once a year)=2	Sometimes (few times a year- 2-3 times a year)=3	often (monthly) =4	Very often (weekly) =5
3	Do you sell your farm products to the market?					
3a	Do you buy farm products from the market?					
3b	What is the nearest distance to the next market (in km and in hour)	..... km .....hours				
4	How much total money did you earn from your farm in 2020 (in NPR)?	<50,000 <input type="checkbox"/> =1 50,001 to 100,000 <input type="checkbox"/> =2 100,001 to 150,000 <input type="checkbox"/> =3 150,001 to 200,000 <input type="checkbox"/> =4				

		>200,001 <input type="checkbox"/> =5				
4a	How satisfied is your family with the satisfaction to cover the following needs from your income in last 2-3 years?	Food	Water	Shelter	Cloths	Health
		Very satisfied <input type="checkbox"/> =1	Very satisfied <input type="checkbox"/> =1	Very satisfied <input type="checkbox"/> =1	Very satisfied <input type="checkbox"/> =1	Very satisfied <input type="checkbox"/> =1
		Satisfied <input type="checkbox"/> =2	Satisfied <input type="checkbox"/> =2	Satisfied <input type="checkbox"/> =2	Satisfied <input type="checkbox"/> =2	Satisfied <input type="checkbox"/> =2
		Neutral <input type="checkbox"/> =3	Neutral <input type="checkbox"/> =3	Neutral <input type="checkbox"/> =3	Neutral <input type="checkbox"/> =3	Neutral <input type="checkbox"/> =3
		Dissatisfied <input type="checkbox"/> =4	Dissatisfied <input type="checkbox"/> =4	Dissatisfied <input type="checkbox"/> =4	Dissatisfied <input type="checkbox"/> =4	Dissatisfied <input type="checkbox"/> =4
		Very dissatisfied <input type="checkbox"/> =5	Very dissatisfied <input type="checkbox"/> =5	Very dissatisfied <input type="checkbox"/> =5	Very dissatisfied <input type="checkbox"/> =5	Very dissatisfied <input type="checkbox"/> =5
5	Which of the following sustainable farming practices do you use?	Yes=1 No=2 Rotating crops <input type="checkbox"/> , = Intercropping <input type="checkbox"/> = Planting cover crops <input type="checkbox"/> , = Reducing or eliminating tillage <input type="checkbox"/> , = Applying integrated pest management <input type="checkbox"/> , = Integrating livestock and crops <input type="checkbox"/> , = Adopting agroforestry practices <input type="checkbox"/> , = Use of organic fertilizer <input type="checkbox"/> , = Irrigation <input type="checkbox"/> =				
6	How do you perceive the price of inputs? Not applicable =5	Seeds	Irrigation system	Pesticides	Chemical fertilizer (eg.urea)	
		Extremely cheap <input type="checkbox"/> =1	Extremely cheap <input type="checkbox"/> =1	Extremely cheap <input type="checkbox"/> =1	Extremely cheap <input type="checkbox"/> =1	
		Cheap <input type="checkbox"/> =2	Cheap <input type="checkbox"/> =2	Cheap <input type="checkbox"/> =2	Cheap <input type="checkbox"/> =2	
		Affordable <input type="checkbox"/> =3	Affordable <input type="checkbox"/> =3	Affordable <input type="checkbox"/> =3	Affordable <input type="checkbox"/> =3	
		High <input type="checkbox"/> =4	High <input type="checkbox"/> =4	High <input type="checkbox"/> =4	High <input type="checkbox"/> =4	
		Extremely high <input type="checkbox"/> =5	Extremely high <input type="checkbox"/> =5	Extremely high <input type="checkbox"/> =5	Extremely high <input type="checkbox"/> =5	

Section C: Climate change awareness

1	Are you aware of climate change?	Yes <input type="checkbox"/> =1 , No <input type="checkbox"/> = 2
In the last 10-15 years have you experienced the following changes?		
2	It is generally warmer these days,	Agree <input type="checkbox"/> =1 , Disagree <input type="checkbox"/> =2, No change <input type="checkbox"/> =3 , Don't know <input type="checkbox"/> =4
3	Intensity of extreme heat	Higher =1, lower=2, unpredictable=3, don't know=4
4	The onset of summer these days occurs,	Earlier <input type="checkbox"/> = 1, Later <input type="checkbox"/> =2 No change <input type="checkbox"/> =3, Don't know <input type="checkbox"/> =4
4	Duration of winter these days are,	Longer <input type="checkbox"/> =1, Shorter <input type="checkbox"/> =2 No change <input type="checkbox"/> =3, Don't know <input type="checkbox"/> =4
5	The amount of rainfall these days are,	Less <input type="checkbox"/> =1, More <input type="checkbox"/> = 2 Unpredictable <input type="checkbox"/> =3, Don't know <input type="checkbox"/> = 4
5a	Intensity of Rainfall	Low=1, more =2, unpredictable=3, don't know=4
6	The onset of rainfall these days occurs,	Earlier <input type="checkbox"/> = 1, Later <input type="checkbox"/> =2 No change <input type="checkbox"/> =3, Don't know <input type="checkbox"/> =4
7	Snowfall these days starts,	Earlier <input type="checkbox"/> = 1, Later <input type="checkbox"/> =2 No change <input type="checkbox"/> =3, Don't know <input type="checkbox"/> =4
7a	Intensity of coldness	Low=1, more =2, unpredictable=3, don't know=4

8	Incidence of drought these days are,	Higher <input type="checkbox"/> =1 , Lower <input type="checkbox"/> =2 No change <input type="checkbox"/> =3, Don't know <input type="checkbox"/> =4
9	Incidence of fire these days are,	Higher <input type="checkbox"/> =1 , Lower <input type="checkbox"/> =2 No change <input type="checkbox"/> =3, Don't know <input type="checkbox"/> =4
10	Incidence of floods and landslides these days are,	Higher <input type="checkbox"/> =1 , Lower <input type="checkbox"/> =2 No change <input type="checkbox"/> =3, Don't know <input type="checkbox"/> =4
11	Incidence of avalanches these days are,	Higher <input type="checkbox"/> =1 , Lower <input type="checkbox"/> =2 No change <input type="checkbox"/> =3, Don't know <input type="checkbox"/> =4
12	Amount of forest area these days are,	Higher <input type="checkbox"/> =1 , Lower <input type="checkbox"/> =2 No change <input type="checkbox"/> =3, Don't know <input type="checkbox"/> =4
13	Populations of wildlife species these days are,	Higher <input type="checkbox"/> =1 , Lower <input type="checkbox"/> =2 No change <input type="checkbox"/> =3, Don't know <input type="checkbox"/> =4
14	Blooming time of common plants these days occurs,	Earlier <input type="checkbox"/> = 1, Later <input type="checkbox"/> =2 No change <input type="checkbox"/> =3, Don't know <input type="checkbox"/> =4
15	Plantation of major crops these days occurs,	Earlier <input type="checkbox"/> = 1, Later <input type="checkbox"/> =2 No change <input type="checkbox"/> =3, Don't know <input type="checkbox"/> =4
16	Harvesting of major crops these days occurs,	Earlier <input type="checkbox"/> = 1, Later <input type="checkbox"/> =2 No change <input type="checkbox"/> =3, Don't know <input type="checkbox"/> =4
17	Increase of pest and disease outbreak these days are,	Higher <input type="checkbox"/> =1 , Lower <input type="checkbox"/> =2 No change <input type="checkbox"/> =3, Don't know <input type="checkbox"/> =4

Section D: Climate change adaptations (1,2) strategies and vulnerability (3,4)

1	Which of the following strategies you have adopted so far?	How long are you using this strategy (in years)?
	Crop diversification (e.g., different cultivars) <input type="checkbox"/> =1	.....
	Changing planting date <input type="checkbox"/> =2	.....
	Changing of crop planted <input type="checkbox"/> =3	.....
	Early matured varieties <input type="checkbox"/> =4	.....
	Drought tolerant/resistant varieties <input type="checkbox"/> =5	.....
	Irrigation system <input type="checkbox"/> =6	.....
	Rainwater harvesting <input type="checkbox"/> =7	.....
	reduced tillage <input type="checkbox"/> =8	.....
	Mulching <input type="checkbox"/> =9	.....
	Agroforestry <input type="checkbox"/> =10	.....
	Off-farm income <input type="checkbox"/> =11	.....
	Fallow land=12	
	Temporary migration <input type="checkbox"/> =13	.....
Organic fertilizer=14	.....
Other (Please specify) .....=15	.....
2	How often do you have access to the following information channels regarding weather information?	
	Sources	Never-1, Once a year-2, Once a month-3, Once a week-4, Everyday-5
	Internet	1 2 3 4 5
	Radio (e.g. weather forecast)	1 2 3 4 5
	Television (e.g. weather forecast)	1 2 3 4 5
	Farmers group (Krishi Samuha)	1 2 3 4 5
	Research Institution/University	1 2 3 4 5
	Print media (e.g. newspaper)	1 2 3 4 5
	Mobile phone	1 2 3 4 5
	Other (please specify):	1 2 3 4 5
3	How was the influence/impact of the following factors on your farm production in the last 5 years?	
	Factors	Very negative-1, negative-2, no change-3, positive- 4, very positive-5

Rise in temperature	1	2	3	4	5
Erratic rainfall	1	2	3	4	5
Drought	1	2	3	4	5
Windstorm	1	2	3	4	5
Overflooding	1	2	3	4	5
Hailstorm	1	2	3	4	5
Crop pest and disease outbreak	1	2	3	4	5
Livestock disease outbreak	1	2	3	4	5
Decrease in soil quality	1	2	3	4	5
Other (please specify)	1	2	3	4	5

4	How often following consequences of climate change occurred in last 5 years?					
	Factors	Never-1, Rarely (once in a 5 years)-2, sometimes (2-3 times in 5 years) -3, often (4-5 times in 5 years)-4, Always (more than 5 times)-5				
	Reduce crop yield	1	2	3	4	5
	shortage of livestock feeds	1	2	3	4	5
	Dead of livestock	1	2	3	4	5
	Crop pest and disease outbreak	1	2	3	4	5
	Destruction of farmland	1	2	3	4	5
	Destruction of habitat (human being & animal)	1	2	3	4	5
	Physical injury to the family member/me	1	2	3	4	5
	Dead of family member (except earthquake)	1	2	3	4	5
	Lack of financial capital	1	2	3	4	5
	Others (please specify)	1	2	3	4	5
	Others (please specify)	1	2	3	4	5

Section E:

Food consumption and food sources (FCS)				
Who decides what will be eaten?			Female <input type="checkbox"/> =1	Male <input type="checkbox"/> =2
			Female	Male
1	How many meals did the adults (18+) in this household eat yesterday?		1. |__|	2. |__|
2	How many meals did the children between the age of 5-17 eat yesterday?		1. |__|	2. |__|
3	How many meals did the children between the age of 2-< 5 eat yesterday?		1. |__|	2. |__|
4	Food items/groups	Examples	4.1. How many days over the last 7 days, did members of your household eat the following food items, prepared and/or consumed at home?	4.2. How was this food acquired? Write the main source of food for the past 7 days
			Days	Source
1	Cereals or tubers=1	Rice, potato, naan etc.	.....	.....
2	Pulses and groundnuts=2	Beans, peas, Cashew nuts	.....	.....
3	Milk and milk products=3	Fresh milk, powdered milk, yogurt, cheese, other dairy products	.....	.....
4	Eggs, meat, fish, shells=4	Organ meat, flesh meat, fish, eggs, etc.	.....	.....
5	Vegetables=5	carrots, spinach etc.	.....	.....
6	Fruits=6	Apple, banana, etc.	.....	.....

7	Sugar=7	Sugar, honey, jam, cakes, pastries, (sugary drinks)	.....	.....
8	Oil=8	Vegetable/palm oil, butter, ghee, other fats	.....	.....
9	Condiments=9	Spices, tea, coffee, salt, spices, tomato / sauce	.....	.....
Food acquisition codes: 01 = purchase (cash) 04 = food assistance (food card) 07 = barter and exchange 10 = gathering of wild foods (plants/insects) 02 = purchase (credit) 05 = army distributing food 08 = borrowing 11 = hunting/fishing 03 = food assistance (General Food Distribution) 06 = support from relatives/friends 09 = begging/scavenging 12 = own production				

HOUSEHOLD COPING STRATEGIES (rCSI)		
	During the last 7 days, were there days (and, if so, how many) when your household had to employ one of the following strategies (to cope with a lack of food or money to buy it)?	Frequency (number of days from 0 to 7)
1	Relied on less preferred, less expensive food=1	.....
2	Borrowed food or relied on help from friends or relatives=2	.....
3	Reduced the number of meals eaten per day=3	.....
4	Reduced portion size of meals at meals time=4	.....
5	Restrict consumption by adults in order for young children to eat=5	.....

Section F: Migration

1. Household size and migrants

Variable		Male =2		Female =1		
Household size excluding migrants (current)						
How many have migrated internally (inside the country) for the past 10 years						
How many have internationally (outside of the country) migrated for the past 10 years						
3	Do you receive remittances or items from migrant members	Yes <input type="checkbox"/> =1 No <input type="checkbox"/> =2, N/A=99Liv				
3a	If yes, how often do you received the following items from migrants for the past 5-10 years					
		Never=1	Rarely (once a year)=2	Sometimes (Few times a year)=3	Often (Monthly)=4	Very Often (Weekly)=5
	Money					
	Farm input					
	Cloth & household belongings					
	Food items					
	Others.....					
	Not applicable=x					
4	Please indicate the share of your livelihood which was covered by money or stuff sent by migrant members last year?		0-25 % <input type="checkbox"/> =1, 26-50% <input type="checkbox"/> =2 51-75% <input type="checkbox"/> =3, More than 75% <input type="checkbox"/> =4			
5	Please indicate the importance of remittances to cover the following (1 lowest importance, 5 highest importance)					
	Importance of remittances	1-not at all important	2-slightly important	3-Neutral	4-very important	5-Extremely important
	Buying food/cloths					

	Education					
	Health expenses					
	Buying Seed/ fertilizer					
	Buying pesticides					
	Buying Agri tools					
	Repay debts					
	Financing migration costs of additional family members					
	House construction and maintenance					
	Others					
6	Ideally, if you had the opportunity, would you like to move Temporarily to another place?				Yes <input type="checkbox"/> =1 No <input type="checkbox"/> =2	
6a	Where do you want to move?				To the same/different village=1, to the urban area=2	
6b	Ideally, if you had the opportunity, would you like to move Permanently to another place?				Yes <input type="checkbox"/> =1 No <input type="checkbox"/> =2	
7	If 6&6a is Yes, are you planning to move in the next 12 months?				Yes <input type="checkbox"/> =1 No <input type="checkbox"/> =2	
8	If 7 is Yes, have you done any preparation for this move? (for eg; buy properties or making arrangements for the move)				Yes <input type="checkbox"/> =1 No <input type="checkbox"/> =2	
9	If any questions from 6 to 8 is Yes, What is the primary reason you choose to move?	Education <input type="checkbox"/> =1 Search for work <input type="checkbox"/> =2 , Job transfer/ opportunity <input type="checkbox"/> =3, Drought=4 , Flood <input type="checkbox"/> =5, landslides=6, Family problems <input type="checkbox"/> =7, Better livelihoods <input type="checkbox"/> =8, Do not own Agri land to work here <input type="checkbox"/> =9				

	(Multiple selection allowed)	Don't have enough land <input type="checkbox"/> =10, Poor quality of land <input type="checkbox"/> =11 Other (Please specify) =12.....
10	How often do your household had to deal with the lack of labor available for work in agriculture in last 5 years?	Never <input type="checkbox"/> =1, Sometimes <input type="checkbox"/> =3, Always <input type="checkbox"/> =5 Rarely <input type="checkbox"/> =2, Often <input type="checkbox"/> =4,

Section G: Covid-19 in food security

COVID-19 and Food security		
1	Which statement best reflects your food situation in this pandemic time?	I increased my food intake <input type="checkbox"/> =1 I had no difficulties eating enough food <input type="checkbox"/> =2 I ate less preferred foods <input type="checkbox"/> =3 I skipped meals or ate less than usual <input type="checkbox"/> =4 I went one whole day without eating <input type="checkbox"/> =5
2	Does your household had/have food stock?	Yes, less than 1 week <input type="checkbox"/> =1, Yes, 1 week <input type="checkbox"/> =2 Yes, 2-3 weeks <input type="checkbox"/> =3, Yes, 1 months <input type="checkbox"/> =4 Yes, more than 1 months <input type="checkbox"/> =5
3	What is the situation of your household income in this pandemic time?	Increased in salary/revenue <input type="checkbox"/> =1, No change <input type="checkbox"/> =2 Job loss <input type="checkbox"/> =3, Reduced salary/revenue <input type="checkbox"/> =4 Had to resort to alternative source of income <input type="checkbox"/> =5
4	Looking ahead, how do you expect your livelihood will be impacted as result of disruptions from COVID-19?	No impact <input type="checkbox"/> =1, slightly impact <input type="checkbox"/> =2 Somewhat impact <input type="checkbox"/> =3, very impact <input type="checkbox"/> =4, Severe impact <input type="checkbox"/> =5

5	In this pandemic and the lockdown started, have you received any food, cash, or other support from anyone else that you do not usually receive?	Yes <input type="checkbox"/> =1 No <input type="checkbox"/> =2
5.1	If 5=yes, could you please indicate the source?	Government <input type="checkbox"/> =1 Relatives <input type="checkbox"/> =2 Neighbors <input type="checkbox"/> =3 Community leaders <input type="checkbox"/> =4 NGOs <input type="checkbox"/> =5 Other (please specify)=6
6	Is someone in your family had to return home from abroad due to COVID-19?	Yes <input type="checkbox"/> =1 No <input type="checkbox"/> =2