

Panchayat name:

Panchayat ID: Plantation/Household ID:

### **Covid-19 + Plantation - Livelihoods Project**

#### **Overall hypothesis:**

Utilization of forest resources in the Kangra District, Himachal Pradesh, India by rural communities is higher during the COVID-19 pandemic than during the pre-pandemic era, resulting in higher levels of forest degradation and clearing.

#### **Specific objective of the survey:**

Measure and understand the relationships among public forestry policies, tree planting and other LCLU change, and rural livelihoods during the COVID-19 pandemic.

#### **FormC: Panchayat details**

Adapted from NASA C-form.

#### **Form H: Household details**

Adapted from NASA H-form.

#### **Form P. Plantations**

Adapted from NASA P-form.

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FORM C. Plantation - Livelihoods Project

Respondent: Pradhan, Up-Pradhan, Rakha, BO, Forest Guard, Forest Worker or Mate, Panchayat secretary, Patwari, Forest Committee Member

This form will be filled by HS

Panchayat	Panchayat ID	Range ID	Beat ID	Date	Investigator
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C 1. What is the number of Covid-19 infections in your panchayat?

	COVID-19 cases, <b>confirmed</b>	COVID-19 cases, <b>suspected</b>
In the panchayat		
Family members staying outside of the panchayat		

C 2. Describe the different periods of lock-down, restrictions, and curfew over the past year, following COVID-19

Period 1 Start date \_\_\_\_\_ End date: \_\_\_\_\_

Describe all restrictions \_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_

Were the Covid-19 related restrictions followed by most Panchayat residents? \_\_\_\_\_.

1 = usually followed, 2 = sometimes followed, 3 = rarely followed

Period 2 Start date \_\_\_\_\_ End date: \_\_\_\_\_

Describe all restrictions \_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_

Were the Covid-19 related restrictions followed by most Panchayat residents? \_\_\_\_\_.

1 = usually followed, 2 = sometimes followed, 3 = rarely followed

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Period 3 Start date \_\_\_\_\_ End date: \_\_\_\_\_

Describe all restrictions \_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_

Were the Covid-19 related restrictions followed by most Panchayat residents? \_\_\_\_\_.  
1 = usually followed, 2 = sometimes followed, 3 = rarely followed

Period 4 Start date \_\_\_\_\_ End date: \_\_\_\_\_

Describe all restrictions \_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_

Were the Covid-19 related restrictions followed by most Panchayat residents? \_\_\_\_\_.  
1 = usually followed, 2 = sometimes followed, 3 = rarely followed

C 3. How many times was the gram sabha held in the past 12 months **(Sept.2020 to Aug 2021)**?  
\_\_\_\_\_

C 4. What is the level of cooperation and conflict between elected panchayat members?

2015-2020	
Since recent election (Jan 2021)	

Highly cooperative=1, some dispute=2, major dispute=3; No response = 4

C 5. What was the vote share for the most recent panchayat election?

	Reserve women?	Reserve SC?	Reserve ST?	Reserve OBC?	Total votes	Winner	Runner-up	Last place
Pradhan								
Up-pradhan								

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C 6. Can you recall the number of visits of major political leaders in the last year? \_\_\_\_\_

C 7. What is the relationship between panchayat leaders & the forest department?

Leaders	RO	BO	Guard	Rakha
Panchayat				
MLA/MP				
Forest institution				
Other local institution of importance				

No relationship=0; Highly cooperative=1, Some dispute=2, Major dispute=3; No response=4

C 8. Did the community actively monitor its plantation resources before the Covid-19 pandemic and lockdown? \_\_\_\_\_

No=0, Yes=1, No response=2

C 9. How did monitoring during each of these periods compare to monitoring **before** Covid-19 and the lockdown?

Lockdown April/May 2020	Between lockdowns June 2020- April 2021	Lockdown ( 7 <sup>th</sup> May -14 June) 2021	After lockdown (15 June onward) 2021

No change=0; Decrease=1; Increase=2

C 10. Do community members generally adhere to local rules about plantation use? \_\_\_\_\_

None of them=1, few=2, about half=3, most of them=4, mostly all=5, No response=6

C 11. How did rule adherence during each of these periods compare to rule adherence **before** Covid-19 and the lockdown?

Lockdown April/May 2020	Between lockdowns June 2020- April 2021	Lockdown ( 7 <sup>th</sup> May -14 June) 2021	After lockdown (15 June onward) 2021

No change=0; Decrease=1; Increase=2

C 12. Are community members aware of and understand rules about plantation use? \_\_\_\_\_

None of them=1, few=2, about half=3, most of them=4, mostly all=5, No response=6

C 13. Does the community actively enforce transgressions or incursions of local rules about plantation use?

Never=0, Sometimes=1, Most of the time=2 Always=3 No response=4

C 14. How did rule enforcement of plantations change during each of these periods compared to rule enforcement *before* Covid-19 and the lockdown?

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Lockdown April/May 2020	Between lockdowns June 2020- April 2021	Lockdown ( 7 <sup>th</sup> May -14 june)2021	After lockdown (15 June onward) 2021

No change=0; Decrease=1; Increase=2

C 15. Can you describe forest institutions in the panchayat, if (examples: JFM, Cooperative, VFDS, VDC, User Groups, FDA committee, FRC, Village Forest Committee, Social forestry committee)? What is their role in plantation management?

Do any forest institutions manage plantations in this panchayat? (Yes, No) Details: Name, time range, members.	Is this institution active now? (Yes, No).	How were its activities affected by COVID-19? Describe the activities of forest management by this institution. Details: activities, both formal and informal.

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**FORM H. Plantation - Livelihoods Project**

This form will be filled by HS. Field Investigator name:

Panchayat	Village	Caste	Respondent name	Respondent relation with head of family
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**Module 1. Household demographics**

H 1. What is your household size?

	Age<15	Age 15-60	Age >60
Male			
Female			

H 2. How many people in the household have been staying outside of the village since Covid-19 and the lockdown? (April 2020 onward)

Lockdown April/May 2020	Between lockdowns June 2020- April 2021	Lockdown( 7 <sup>th</sup> May -14 june) 2021	After lockdown(15 June onward)2021

H 3. How many people in this household were living outside of the village at least six months, the year before COVID-19 (i.e. 2019)?

\_\_\_\_\_

**Module 2. Covid-19 related**

H 4. How has Covid-19 broadly influenced the lives, livelihoods, and dependence on natural resources of members of your household?

H 5. How many family members have had significant illness since the pandemic began (March 2020)?

	Household members living in the village	Household member living outside of the village
COVID-19 case, <b>confirmed</b>		
COVID-19 case, <b>suspected</b>		
Other major illness		

If other, describe: \_\_\_\_\_

H 6. What was the total cash income of your household before the pandemic?

2019 \_\_\_\_\_

H 7. How has your household's income changed since the pandemic, compared to the same time during the previous year?

Lockdown April/May 2020	Between lockdowns June 2020- April 2021	Lockdown ( 7 <sup>th</sup> May -14 june) 2021	After lockdown (15 June onward)2021

1 = decrease greatly; 2 = decrease; 3 = say the same; 4 = increase; 5 = increase greatly

H 8. On average, what was your household's food security situation in 2019? \_\_\_\_\_

1 = no worry about getting enough food to feed the full family;

2 = occasionally worry about not having enough food for the family;

3 = often worry about not having enough food for the family

H 9. How has your ability to feed your family changed in since the pandemic, compared to 2019?

Lockdown April/May 2020	Between lockdowns June 2020- April 2021	Lockdown ( 7 <sup>th</sup> May -14 june) 2021	After lockdown (15 June onward)2021

1= gotten much worse; 2 = gotten worse; 3 = say the same; 4 = improved; 5 = greatly improved

H 10. Did your household have any debt for anything (healthcare, agriculture, home investment, food, etc.)in 2019)? (yes/no) \_\_\_\_\_

H 11. Did your household's debt changesince the pandemic, compared to 2019?

Lockdown April/May 2020	Between lockdowns June 2020- April 2021	Lockdown ( 7 <sup>th</sup> May -14 june) 2021	After lockdown (15 June onward)2021

1 = decrease greatly; 2 = decrease; 3 = say the same; 4 = increase; 5 = increase greatly

H 12. On average, how much did you worry about your family's well-being and future before Covid/the lockdown (2019)? \_\_\_\_\_

1 = Little or no worry; 2 = Sometimes worry; 3 = Often worry

H 13. How has your worry changed since the pandemic, compared to 2019?

Lockdown April/May 2020	Between lockdowns June 2020- April 2021	Lockdown ( 7 <sup>th</sup> May -14 june) 2021	After lockdown (15 June onward)2021

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1 = decrease greatly; 2 = decrease; 3 = say the same; 4 = increase; 5 = increase greatly

**Module 3. Household wellbeing**

H 14. Does your household access social security programs? No=0, Yes=1

Ration card		Health card	
Mid-day meal		Old-age/disability pension	
MGNREGA		Ujjwala scheme/ Grihniyojna	

H 15. Did your household access any of the following social security programs since COVID?

Free/increased ration		Money in kisanSamanNidhi.	
Money in jandhan accounts		Agricultural inputs	
Free LPG		other	

If other, please describe \_\_\_\_\_

H 16. How many MGNREGA days did you receive in 2019

	Total days 2019	Total days 2020	Total days 2021
Male			
Female			

How many MGNREGA days did you receive since covid-19/lockdown (March 2020-onward)?

H 17. What are the proportions of your household income? (Should not add up to more than 100)

Source of income	Proportion of Annual Income, average 2019	Lockdown April/May 2020	Between lockdowns: June 2020- April 2021	Lockdown ( 7 <sup>th</sup> May-14 june) 2021	After lockdown (15 June onward)2021
Agriculture					
Wage Labor					
Livestock					
NTFP collection					
Firewood sales					
Home production					
Salary/Pension					
Remittances					
Trade					



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Grass fodder					
Leafy fodder					

H 18. On a scale of 1-10 how important are plantations for your household’s livelihood, compared to other sources of economic activity? \_\_\_\_\_

H 19. Has your household experienced any of these negative shocks and stress since the beginning of the pandemic (March 2020)?

Shock	Yes /no	Severity of impacts	In what period did this shock occur?
Drought			
Delay in monsoon			
Fire			
Invasive/pest infestation			
Flood/Rain/Landslide			
Hail damage			
Frost			
Windstorm			
Human/animal conflict			
Livestock disease/ death			
Livelihood failure			
Large fall in sale price for crops			
Large rise in price of food			
Large rise in price of agricultural inputs			
Loss of land			
Illness of household member			
Death of household member			
Loss of property (robbery, damage etc.)			

Severity: no hardship=1, a little hardship=2, moderate hardship=3, big hardship = 4

Period: before lockdown = 0, during lockdown 2020 = 1, between lockdowns = 2, during lockdown 2021 = 3; after lockdown 2021 = 4

H 20. Has your household experienced any of these COVID-19 related shocks and stressors since the beginning of the pandemic (March 2020)?

Shock	Yes /no	Severity of impacts	In what period did this shock occur?
COVID-19 illness/death in household			
Loss of job/income			

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Cannot sell ag/livestock product/ large fall in price			
Cannot get agricultural inputs			
Difficulty getting food on market / increase in price of food			
Not enough money for food			
Decrease in business/cannot sell service			
Cannot get medicine/treatment for human			
Cannot get medicine/treatment for livestock			
Difficulty hiring labor farm activities or other livelihood			
Cannot get fodder on market			
Difficulty getting cooking gas			
Increasing debt / inability to pay back loan			
Other 1 _____			
Other 2 _____			
Other 3 _____			

Severity: no hardship=1, a little hardship=2, moderate hardship =3, big hardship = 4

Period: before lockdown = 0, during lockdown 2020 = 1, between lockdowns = 2, during lockdown ( 7<sup>th</sup> May -14 june) 2021 = 3; after lockdown (15 June onward)2021= 4

**Module 4. Natural resource use and dependence**

H 21. What are the sources of energy for household use in cooking and heating since the beginning of the pandemic (March 2020)?

Supply from different sources (in %, total must add up to 100)								
Fuelwood (Private)	Fuelwood (Market)	Fuelwood (Forest/Commons)	Fuelwood Plantation	Fuelwood (Landholding of others)	LPG	Electricity	Kerosene	Cow Dung

H 22. Household dependence on natural resources since the beginning of the pandemic (March 2020)? (Add up to 100% along rows)

	Private (Own)	Private (Others)	Commons	Forest	Plantation	Market
Fodder and livestock use						
Grazing						
Timber and construction						

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Fishing, wild foods						
Agricultural inputs						

H 23. Land holdings

Total Agricultural land (Kanal)	Land under cultivation 2019	Land under cultivation 2020	Land under cultivation 2021

H 24. Food bundle: Sources of grains

	Percentage 2019, on average (column adds to 100%)	Lockdown April/May 2020	Between lockdowns: June 2020- April 2021	Lockdown ( 7 <sup>th</sup> May-14 June) 2021	After lockdown (15 June onward)2021
Subsistence production					
Depot					
Market					
Gift					
Borrow					

H 25. Has your household harvested and used any wild foods since the beginning of the pandemic (March 2020)?

<b><u>Which Foods? (list all)</u></b>	<b><u>How has your use changed since the pandemic?</u></b>	<b><u>Where do you harvest these foods? (say all)</u></b>

Use change: 1 = reduce a lot; 2 = reduce some; 3 = stay they same; 4 = increase some; 5 = increase a lot

Places to harvest foods: 1 = private land; 2 = forest; 3 = plantation; 3 = common grazing land; 4 = other (say where)

**Module 5. Plantations**

H 26. How have plantations influenced your household's lives?

H 27. Have plantations influenced your household's lives during COVID? If so, how?

H 28. Could you describe your household's use of forest plantations?

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Plantation	Main species	Distance to plantation (km)	Distance to plantation (minutes)	Benefits: Lockdown April/May 2020	Benefits: Between lockdowns: June 2020- April 2021	Benefits: Lockdown ( 7 <sup>th</sup> May-14 june) 2021	Benefits: After lockdown (15 June onward)2021

Plantation products/benefits: fuelwood=1, fodder=2, grazing=3, plant food items=4, medicinal plants=5, bamboo/rattan=6, soil/stone=7, water=8, mulch=9, fencing=10, other1=11, other2=12, other3=13; No response=14

H 29. Could you describe your household's dependence on forest plantations during these time periods?

Plantation	Commercial or subsistence of both	Degree of dependence: Lockdown April/May 2020	Degree of dependence: Between lockdowns: June 2020- April 2021	Degree of dependence: Lockdown ( 7 <sup>th</sup> May-14 june) 2021	Degree of dependence: After lockdown (15 June onward)2021

Use: commercial=1, subsistence=2, both=3; No response=4

Degree of dependence: Not dependent=0, Low=1, Medium=2, High=3, No response=4

H 30. Can you describe the frequency of your visits to plantations **per month** during these time periods?

Plantation	Frequency of visits: Lockdown April/May 2020	Frequency of visits: Between lockdowns: June 2020- April 2021	Frequency of visit: Lockdown ( 7 <sup>th</sup> May - 14 june) 2021	Frequency of visits: After lockdown (15 June onward)2021

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H 31. During these trips, which benefits did you most collect?  
 Plantation products/benefits: fuelwood=1, fodder=2, grazing=3, plant food items=4, medicinal plants=5, bamboo/rattan=6, soil/stone=7, water=8, mulch=9, fencing=10, other1=11, other2=12, other3=13; No response=14

H 32. Could you describe the change in quantity of plantation benefits you receive, when comparing the period before Covid/lockdown to each of these time periods?

Benefits	Lockdown April/May 2020	Between lockdowns: June 2020- April 2021	Lockdown ( 7 <sup>th</sup> May-14 June) 2021	After lockdown (15 June onward)2021

Plantation products/benefits: fuelwood=1, fodder=2, grazing=3, plant food items=4, medicinal plants=5, bamboo/rattan=6, soil/stone=7, water=8, mulch=9, fencing=10, other1=11, other2=12, other3=13; No response=14

Degree of change: don't receive benefit in this season = 0; quantity decreased = 1, quantity is about the same = 2, quantity increased = 3, don't know / no response = 4

H 33. Could you describe how many person days per year you shared your labor with other households in **Sept.2020 to Aug 2021?**

	Forest (collection of fuel, fodder, timber, etc.)	Agriculture (weeding, harvest, planting, etc.)	Construction (house, bund, road, canal, etc.)	Cultural aspects (birth, death, marriage, etc.)
Person days (last year)				

H 34. Have you or your family member been fined for forest offences in the since the COVID-19 pandemic? (Yes=1, No=0) \_\_\_\_\_

H 35. What is the nature of your household's relationship with public authorities responsible for regulating forest governance? \_\_\_\_\_  
 No relationship=0, Supportive=1, Difficult=2, Conflictual=3

H 36. Did anyone in your household participate in any plantation management activities before the Covid-19 pandemic / lockdown? \_\_\_\_\_  
 (Yes=1, No=0)

H 37. How has your household's participation in plantation management changed in the following time periods, relative to the period before Covid-19?

Lockdown April/May 2020	Between lockdowns: June 2020- April 2021	Lockdown ( 7 <sup>th</sup> May -14 june) 2021	After lockdown (15 June onward)2021

No change=0; Decrease=1; Increase=2

s

### Module 5. Institutions and participation

H 38. How many times last year **Sept.2020 to Aug 2021** did someone in your household attend a panchayat meeting? \_\_\_\_\_

H 39. Have you or your family member been employed for any work in the forest department last year **Sept.2020 to Aug 2021**? No=0, Yes=1 \_\_\_\_\_

H 40. How many days did you or your family member spend in campaigning during the last panchayat elections? Days\_\_\_\_\_

H 41. Have you or anyone in your family been elected to the panchayat in the most recent election? No=0, Yes=1 \_\_\_\_\_

H 42. If yes, then what level? *Ward=1; Panchayat=2; BDC=3; District=4* \_\_\_\_\_

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FORM P. Plantation – Livelihoods Project

Respondent: Rakha, Forest Worker, BO, Forest Guard, Forest Committee Member, Pradhan, Up-Pradhan, Ward Panch

**Module 1. Plantation details. SS.**

Plantation ID	Panchayat ID	Range ID	Beat ID	Date	Investigator name
Latitude	Longitude	Size (Ha)	Site name	Main species	Year established

P 1. Disturbance observed in plantation area at present. Check all that apply.

Fire	Grazing	Invasive species	Tree lopping, cutting	Soil disturbance	Trails/roads

P 2. Canopy cover of plantation at present, in percent \_\_\_\_\_  
0-25%=1; 26-50%=2; 51-75%=3; >76%=4

P 3. How likely are violators of those rules to face penalties? \_\_\_\_\_  
No, there are no rules=0, Yes=1. If No, skip to question 7

P 4. If penalties are imposed, what is the level of compliance by the users? \_\_\_\_\_  
No one complies with the penalties imposed on them=1, Few users comply with the penalties imposed on them=2, About half the users comply with penalties imposed on them=3, Most users comply with penalties imposed on them=4, Almost all users fully comply with penalties imposed on them=5, No response=6

P 5. During the past year, has a local forest governance organization coordinated, passed rules or modified rules for the following activities in the plantation area?

Activity	No=0, Yes=1
Planting seeds, seedlings or other maintenance activities	
Forest protection	
Rule enforcement	
Harvesting/using	
Processing/producing	
Selling	
Conflict resolution	

P 6. Is there a local institution that currently manages the plantation? \_\_\_\_\_  
No = 0, Yes=1

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- P 7. If so, what is the name of this institution? \_\_\_\_\_. How many years has this institution been managing the plantation? \_\_\_\_\_.
- P 8. The types of conservation measures adopted in relation to the plantation are \_\_\_\_\_  
Too restrictive, more could be harvested from the plantation without endangering its sustainability over time=1, about the right level of conservation=2, too lax, if harvesting continues at this rate, the sustainability of the forest is endangered=3, non-existent=4
- P 9. Have the community participated in any informal institutions related to plantation management?  
No = 0, Yes =1
- P 10. If yes to community participation in informal institutions, management is related to:  
Fire = 1; Protection for grazing, fodder fuelwood = 2
- P 11. If yes to community participation in informal institutions, management is motivated by:  
Motivated for protection of private property = 1; Motivated by forest department = 2; Motivated by benefits = 3
- P 12. What types of penalties are imposed on users if they break a harvesting rule related to this forest the first time? How about the second time? How about if they break a harvesting ruler many times? Mark all that apply:

Penalty	First time	Second time	Many times
Verbal chastisement/public sanctions			
In-kind restriction/seize products			
Financial			
Physical-corporeal punishment or imprisonment			
Penalties are too discretionary to define			
Not applicable			