Department for International Development

M&E Framework for measuring climate impacts of MGNREGS works

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Infrastructure for Climate Resilient Growth in India (ICRG) Programme

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In association with

Contents

1 Introduction

ICRG aims at demonstrating adaptation and strengthening the resilience and livelihood security of the rural poor in India, by supporting construction of better quality and more productive infrastructure under the Mahatma Gandhi National Rural Employment Guarantee Scheme (MGNREGS) - the world's largest government funded social protection programme. MGNREGS guarantees 100 days of unskilled wage labor on demand from the poor during lean agriculture time. The programme targets some of the poorest and most vulnerable people in the states of Bihar, Odisha and Chhattisgarh especially poor women, improving their resilience to climate induced adverse agriculture seasons and making their livelihoods more secure.

The Technical Assistance being provided at national and state levels focusses on generating evidence so as to:

- **Strengthen the capacity of the administrative and technical staff** in the state governments (Bihar, Odisha and Chhattisgarh) and local implementation agencies to better plan, build and monitor the construction of physical assets under MGNREGS
- **Building a stronger policy focus** on the design and implementation of infrastructure under MGNREGS
- **Strengthening MGNREGS systems and processes** to ensure better delivery, including the development of innovative, especially IT based, tools
- **Improving the evidence base** on how better physical assets can support livelihoods that are more resilient to flood, drought and high temperature

2 Objective

The climate resilient works (CRWs) being demonstrated under ICRG are expected to address the underlying causes of vulnerability, such as lack of irrigation, decrease in forest cover, poverty and marginalization, and contribute to enhancing the resilience of communities that depend on such MGNREGS works. Currently, the MGNREGA monitoring and information system (MIS) does not capture these benefits accruing from the works. ICRG hopes to measure some of the impacts of the MGNREGS works at outcome level and this framework has been designed with this aim. The Ministry of Rural Development, Government of India could scale up this framework for application across the country.

The following table summarizes the expected outcomes from the different types of works that are being undertaken as CRWs:

Table 1: Expected outcome from different kind of MGNREGS works

CRW - MGNREGA Works	Economy	Durability	Outcome/Productivity
Water conservation and water harvesting works	Cost of construction per unit of storage of water/unit area benefitted	Pucca work: 15-25 years Kaccha work: 5-10 years	• Number of wells recharged • Area brought under irrigation • Cropping intensity • Increase in production • Increase in groundwater level/table • Change in land use
Afforestation and tree plantation	Cost per unit area/plant till the tree grows (3-4 years)	Afforestation trees, 15-25 years	• Economic (fodder, fruits etc.) • Plant survival rate • Carbon content

Irrigation canal including micro and minor irrigation	Cost per unit area brought under irrigation	15-25 years	• Increase in productivity in a year by taking number of crops in a year
a) Irrigation facility/horticulture /plantation **b) Farm bunding/land development**	Cost per unit area brought under irrigation/plant till its productive/unit area developed	a) 15 -25 years b) 10-15 years	• Area covered under irrigation/plantation/land development • Increase in productivity in a year by taking number of crops in a year
Renovation/repair of traditional water bodies including de-silting of tanks	Cost per unit increase in storage capacity of water/silt removed	10-15 years	• Increase in storage capacity of water • Increase in groundwater table
Flood control and flood protection works	Cost per unit area developed	10-15 years	• Area developed • Increase in productivity per annum
Land development	Cost per unit area developed	15-25 years	• Area developed • Increase in productivity /annum

The detailed project reports (DPRs) being prepared for the CRWs capture some of these indicators. This document captures the formats that will be used for data collection and also includes the methodology and step wise guide for data collection.

3 Methodology

Table 2 below summarizes the means of data compilation and collection for each of the indicators in the matrix given in table 1 using two data capturing formats.

1. Format 1: Biophysical indicators – captures the water level, land development and plantation works. It is to be completed for all the CRW sites. Actual measurements will be taken in the field.
2. Format 2: Socio-economic indicators (Farmers survey) – captures change in incomes levels by using production and productivity of the farmers in the catchment area as proxies. It is to be completed with a sample of farmers in the command area of each CRW site.

Format 1 will be compiled in all 432 CRW sites that have been identified in 2017-18 and Format 2 will be administered with sample farmers. The detailed methodology is discussed in Section 3.2.

Table 2: indicator wise data source

MGNREGA Works	Economy	Durability	Outcome/Productivity	Source		Frequency (in a year)	Time of collection
				Format	Location		
Water conservation and water harvesting works	Cost of construction per unit of storage of water/unit area benefitted	Pucca work: 15-25 years Kaccha work: 5-10 years	1. Number of wells recharged	Format 1	2 nearest wells in in the command area of CRW	Thrice	Pre-monsoon, post monsoon, Mid-year
			2. Area brought under irrigation	Format 2, DPR and ICRG-MIS	In the command area of CRW	Twice	Pre-monsoon, post monsoon, Mid-year
			3. Cropping intensity	Format 2	All plots in the command area	Once	July
			4. Increase in production	Format 2	All plots in the command area	Once	July
			5. Increase in groundwater table	Format 1	Covered under indicator 1.	Thrice	Pre-monsoon, post monsoon, Mid-year
Afforestation and tree plantation	Cost per unit area/plant till the tree grows (3-4 years)	Afforestation trees, 15-25 years	6. Economic (fodder, fruits etc.) 7. Plant survival rate 8. Carbon sequestration • Kind of plants • Number of each kind • Area of plantation • Average age of plant	Format 1 Format 1 Calculation for primary data from Format 1	To estimate from plants data	Once	August
Irrigation canal including micro and minor irrigation	Cost per unit area brought under irrigation	15-25 years	9. Increase in productivity in a year by taking number of crops in a year	Format 2	Captured in point 4		

c) Irrigation facility/horticulture /plantation **d) Farm bunding/land development**	Cost per unit area brought under irrigation/plant till it is productive/unit area developed	a.15 -25 years b.10-15 years	1. Area covered under irrigation/plantation/land development	Format 1, DPR and ICRG-MIS	Captured in 2, 3 6-8		
			2. Increase in productivity in a year by taking number of crops in a year	Format 2	Capture in 4		
Renovation/repair of traditional water bodies including de-silting of tanks	Cost per unit increase in storage capacity of water/silt removed	10-15 years	3. Increase in storage capacity of water	Format 1 and DPR	Captured in 1		
			4. Increase in groundwater table	Format 1	Captured in 1		
Flood control and flood protection works	Cost per unit area developed	10-15 years	5. Area developed	Format 1, DPR and ICRG-MIS			
			6. Increase in productivity per annum	Format 1	Captured in 4		
Land development	Cost per unit area developed	15-25 years	7. Area developed				
			8. Increase in productivity /annum		Captured in 4		

3.1 Format 1

Format 1 is to be administered in all the CRW sites in selected in 2016-17 and 2017-18 and those proposed for 2018-19. The distribution of CRWs is given below in table 3. The format is given in Annexure 1.

Table 3: CRWs identified in three states		
S.No	Name of state	Work sites selected in 2017-18
1	Bihar	143
2	Chhattisgarh	147
3	Odisha	142
	Total	432

This measurement will be carried multiple times.

Table 4: Survey administration plan		
Section	Number of times in a year	Number of years
Plantation	Once in August 2018	2 years – 2018 and 2019
Well water level measurement **Water level in CRW structures**	Thrice 1. Pre-monsoon - Last week of May to first week of June 2. Post-monsoon - First two weeks of October 3. Mid-year - Last week of January to first week of February	2 cycles 1. 2018 – 2019 2. 2019-2020-

3.2 Format 2

Format 2 is to be administered with a sample of beneficiaries from each CRW site. The primary objective of this survey is to identify changes in cropping pattern and productivity of small and marginal farmers in the command area of the CRWs.

A semi-structured questionnaire will be administered with beneficiary farmers who have small and marginal land holdings in the command area of the CRW. This survey will be carried out twice:

1. July 2018 – where production and productivity pattern in last cropping seasons – Kharif (July to October 2017), Rabi (October 2017 to March 2018) and Zayed (March to June 2018) from 2017-18 will be captured
2. July 2019- where production and productivity in last cropping seasons from Kharif, Rabi and Zayed in 2018-19 will be captured.

The survey will be carried out with the farmers in all 432 CRW sites identified in 2017-18. .

a. Sample size: 14757 households are expected to directly benefit from the 443 CRW sites that have been identified since 2016. With 99% confidence interval and 2.5% margin of error **required sample size is 2399.**

Table 4: Distribution of beneficiaries and samples in the CRW					
State	**Total number of beneficiary Households**	**Number of CRWs***	**Distribution of beneficiaries**	**Sample distribution as proportion of beneficiaries**	**Number of surveys required at each work site in the state**
Bihar	8337	152	56%	1355	9
Odisha	4469	147	30%	727	5
Chhattisgarh	1646	176	13%	317	2
Total	**14757**	**453**	100%	2399	

*includes CRWs selected in 2016-17 as well.

The survey will focus on the small and marginal size land owners.

b. Sample: 9 farmers in Bihar, 5 in Odisha and 2 farmers in Chhattisgarh will be interviewed at each of the 432 work sites.
c. Sample frame: will consist of a list of beneficiaries and their land holding in the command area of the proposed CRW. Farmers will be selected from the list of small and marginal land holding. Farmers for the interview in the sample frame will be identified via random number generation.
d. Surveyor and survey execution: the selected farmers list will be provided to the surveyors. Survey will be carried out by the block community mobilizers of the ICRG programme. It will carried out digitally in the Lime Survey. Surveyors will be trained prior to the survey on Lime.

4 Guidelines for administering the survey

4.1 Guideline to fill Format 1

This section describes the process of completing Format 1 that captures outcomes from CRWs. It is to be used as a manual to fill the formats. The format is to be filled for all the CRW sites identified in 2017-18.

4.1.1 General instructions

a. Who will administer: Format 1 is to be administer by the Engineers. However they can take help of the community mobilizers in measurements.
b. **How to administer:** The detailed guide is given below. Before starting the survey the following equipment is to be available:
    a. Measuring tape
    b. Rope and weight (Also called as Sahul in local language)
c. Permission from owner of a well prior to taking measurements.

4.1.2 Question specific instructions

Section A. Basic information - fill geographical location of CRW

1	**State**	Geographical location of CRW as per DPR	**7**	**Name of the Engineer**	The Engineer appointed in the district, administering the form
2	**District**		**8**	**Name of CSO**	Name of the CSO working in the district Bihar – name of the partner CSO of Change Alliance
3	**Block**		**9**	**Name of the CRW**	Write the name as per DPR/ICRG-MIS
4	**GP**		**10**	**ID of CRW**	Copy from the list given. ID as generated by the ICRG-MIS
5	**Village**		**11**	**Type of work**	Write the type of work
6	**Village**		**10**	**Month and year**	

Section B. Measurements

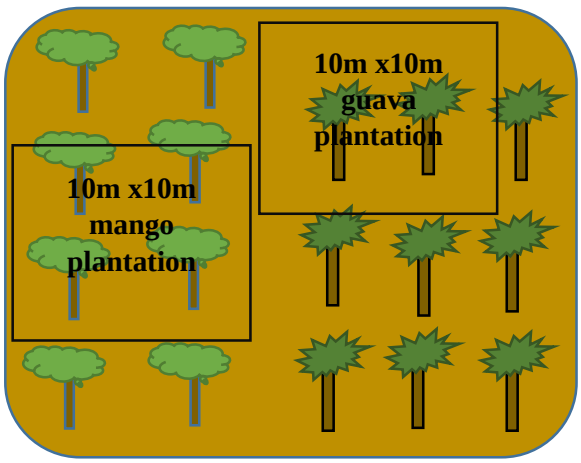
Fill those that are applicable as per the work type. If not applicable write NA.

There are two kinds of plantation work, block plantation and line plantation.

Block plantation is carried out on a piece of land around check dam, both sides of Irrigation channel (Pyne) pond and for other land development activities.

- Column 1-5 (highlighted in grey in the format) is to be filled from the records of the concerned line department.
- In column 6 count the number of saplings in 10m x 10m plot where plantation has been carried out. The following has to be done:
    - Step 1: Ask the village inhabitants and government programme functionaries where plantation has been undertaken.
    - Step 2: Randomly select a plot of 10mx10m where plantation has been carried out. Using the measuring tape, measure and mark 10m x10m area.
    - Step 3: Count the number of saplings planted in the selected plot and write in the column 6.

Block plantation



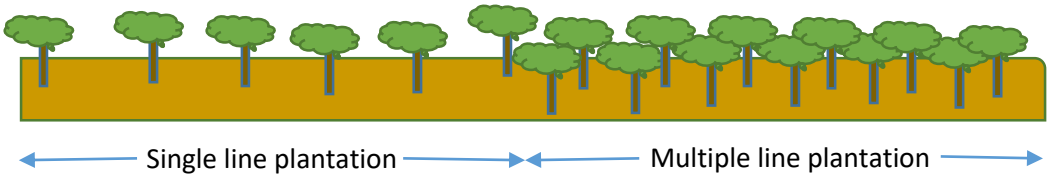
- If different species of saplings have been planted for e.g. mango and guava, select the measurement plot for each species and count the number of saplings in each 10m x 10m plot of plantation.
- P to P - plant to plant distance – measure and write the distance between plants in the measurement plot.
- R to R – row to row – measure and write distance between each row of plantation to other in the measurement plot.

See the sample table filled below.

Number of plants planted on the CRW (Block plantation)	S.N	**Name of the plant**	**Area under plantation (in acre)**	**Spacing**		**No of sapling planted**	**No of sapling in 10mx10m**
				P to P (in m)	R to R (in m)		
		As per the department write these numbers					**Counted at the site**
		This information is to be collected from the concerned department and to be filled as per the government records. Below are filled as an example.					
		1	2	3	4	5	
	A	Mango – amraplai	2.5	5	6	100	7
	B	Leechi	1	5	4	180	5
	C	Cashew	1	7	7	65	3
	D	Guava	0.5	6	6	45	3
	E	Lemon	0.25	5	5	40	2
		Total	5.25			430	20

Line plantation is generally carried out on a stretch of land of small width usually in one or two lines or sometimes more. It is the most popular form of plantation along the irrigation channel (*pynes)* and Ahar Embankments.

Line plantation



Column 1-4 (highlighted in grey in the format) is to be completed from the records of the concerned line department. Information in other columns is to be counted and entered.

For single line plantation

Step 1: Ask the village inhabitants and government programme functionaries where plantation has been undertaken.

Step 2: Select three plots of 20m in three places of line plantation with the following measurements:

- At the beginning of pyne of line plantation,
- 30m at the middle of the pyne and
- 30m at the end of the pyne of line plantation.

Step 3: Count the number of saplings planted in the selected plots.

In the line plantation write plant to plant (P to P) distance between the saplings.

For multiple line plantation

Step 1: Ask the village inhabitants and government programme functionaries where plantation has been undertaken.

Step 2: Select three plots of 20m at three places with the following measurements:

- At the beginning of pyne of line plantation,
- 20m at the middle of the pyne and
- 20m at the end of the pyne of line plantation.

Step 3: Count the number of saplings planted in the selected plot.

In multiple line plantations write the plant to plant distance (P to P) and distance between the rows of the plantation (R to R)

If different species of the saplings have been planted, select the measurement plot for each species and count the number of saplings in each 20m plot of plantation.

In multiple line plantation write

- Plant to plant (P to P) distance between the saplings.
- Row to row (R to R) write distance between the rows of plantation.

2	Single line plantation	S.N	Name of plant	Length of plantation in meters	Spacing		Number of saplings planted	Number of saplings in the beginning in 20 meter	Number of saplings in the middle in 20 meter	Number of sapling at the end in 20 meter
					P to P(in m)					
			As per government records							
			1	2	3		4			
		A	Teak	500	3		140	8	5	3
		B	Acacia	1000	2		500	30	40	24
		C								
		D								
		E								
	Total		Total	1500			640	38	45	27
3	Multiple line plantation	S.N	Name of plant	Length of plantation in meters	Spacing		Number of saplings planted	Number of saplings in the beginning in 20 meter	Number of saplings in the middle in 20 meter	Number of saplings at the end in 20 meter
					P to P	R to R				
			As per government records							
			1	2	3	4	5			
		A	Gooseberry	1000	5	6	250	3	1	0
		B	Fox nut	1500	6	6	300	4	1	1
		C								
		D								
		E								
			Total	2500			550	7	2	1

4	In case of land development work write area of land treated (completed) so far (in hectare)	Write the total area where land development work has been completed to date

5. Measure the water level of the three closest water bodies in the periphery of the structure. Wells are preferred for measuring water level

Note:

- Select the wells located downstream from the structure
- The wells should preferably be within 500m from the structure
- On the day of measurement, ensure that water pumping has not been done in the last two days.

Date and frequency of administration - This format is to be filled thrice **in a year**:

a. Pre-monsoon - mid April- mid May

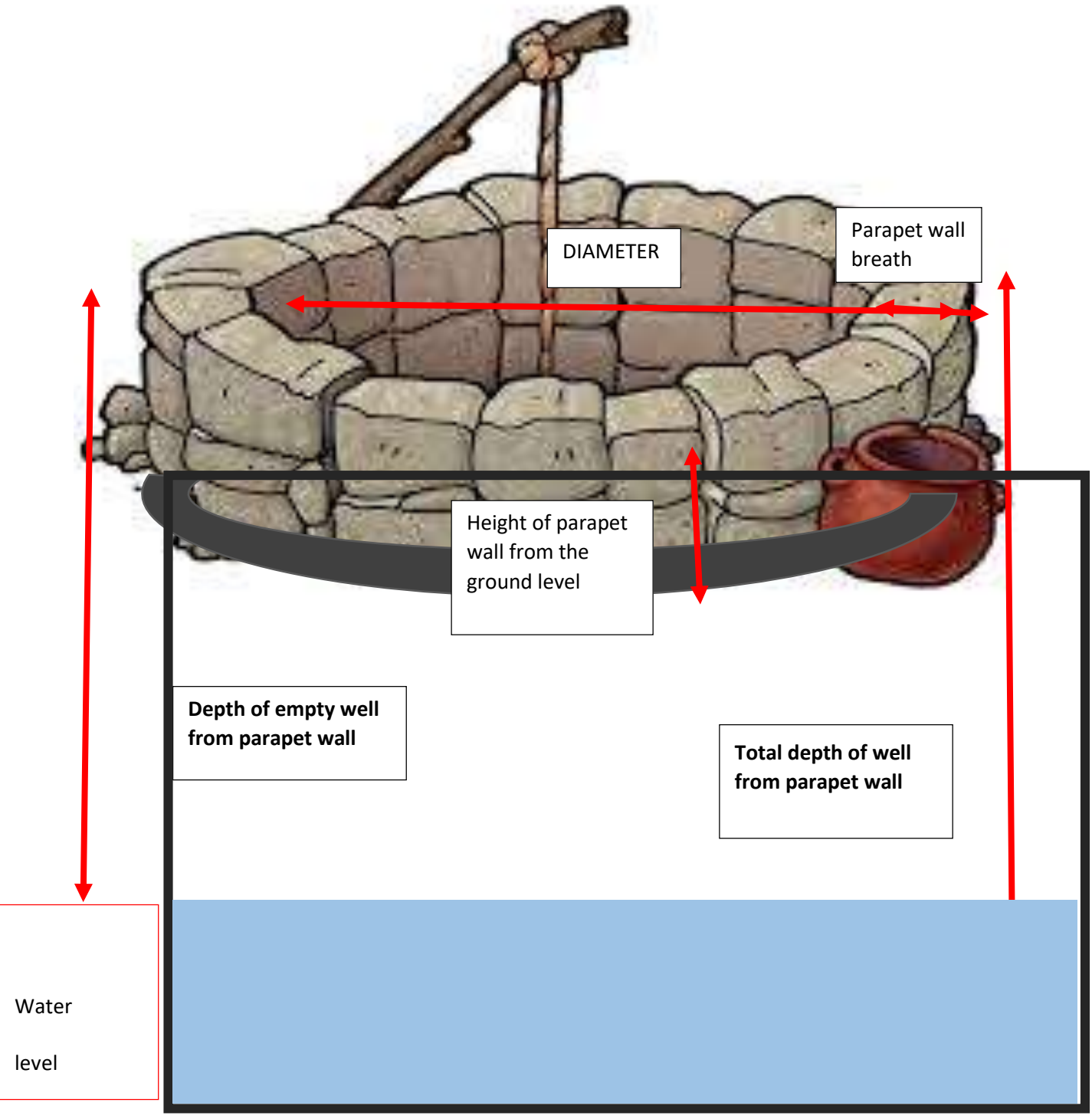
b. Post-monsoon - mid October - mid November

c. Mid Rabi

a.	a-c	Write the name of the structure and write a landmark that may be identified and tracked. Eg: Well Located in Ram Prasad s/o Shiv Prasad farm GPS coordinates: share the GPS coordinates of the structure			
		Name of the structure	**Of Str a (in meters)**	**Of stc b (in meters)**	**Of Stc c (in meters)**
I		Parapet wall breath	See image below to see the definition of each of these		
Ii		Diameter of the well			
Iii		Height of wall from ground level			
Iv.A		Total depth of well from parapet wall			
Iv B		Depth of empty well from parapet wall			
Iv C		Water level in well (ivA – ivB)			

Well measurement

- Use rope attached to the weight (sahul) to measure the depth.


DIAMETER
Parapet wall breath
Height of parapet wall from the ground level
Depth of empty well from parapet wall
Total depth of well from parapet wall
Water level

4.2 Format 2: Farmers survey

This section provides survey guidelines for each question.

Introduce yourself:

I am [say your name], I work on the ICRG project. I would like to request for your time to ask some questions about your crops which your cultivated last year. Would you like to participate in the survey?

If yes, proceed.

If no, thank him/her and choose the next person in the sample list. Mark refusal in the list

Section C: Basic information

Fill basic information of the responding farmer

1	**State**	Name of the state where interview is conducted	**7**	**Name of the Mobilizer**	Name of the CSO community mobilizer conducting the interview
2	**District**	Name of the district where the interview is conducted	**8**	**Name of CSO**	Name of the CSO he/she is associated with
3	**Block**	Name of the block where the interview is conducted	**9**	**Name of the CRW**	Name of the CRW as per the DPR
4	**GP**	Name of the GP where the interview is conducted	**10**	**ID of CRW**	ID of the CRW as per per ICRG MIS list
5	**Village**	Name of the village where the interview is conducted	**11**	**Type of work**	Type of the work
6	**Date**	Date of interview	**12**	**ID of the respondent**	ID of the respondent as per the list

Section D: Respondent basic information

Select the appropriate option from the list

1	Name of the respondent		Name of the respondent	2. Gender of the respondent	1. Male 2. Female
3	Age		……. Years		
4	Father name		Father's name of the respondent		
5	Caste of the respondent		Select the caste of the respondent from the list		
9	Respondent relationship with the owner of this land?		Select the respondent relationship with the owner of the land. Do not conduct the interview if the respondent is not related (option 7) If some other relation (option 8) then specify the relation		
10	How much is your land holding in this command area	a	Own	In Ha	Indicate the land owned by the respondent in the catchment area. And categories the respondent in
		b	Leased out	In Ha	
		c	Leased in	In Ha	

		d	Total holding (a+c-b)	In Ha	marginal, small, medium and large category
11	Category of the farmer as per land holding	1. Marginal – up to 1 ha 2. Small - 1-2 ha 3. Medium -2-4 ha 4. Large - > 4ha			
12	According to you how much area will be irrigated with this CRW (when it will be completed)? [command area]			In acre	

Section E: Production

- In this section ask the respondent about the crop/crops he/she produced in the last cropping season of kharif, rabi and zayed. Write the information about the area under cultivation, quantity produced and market price fetched against the selected crop.
- Fill the applicable crops and leave rest blank.
- In column 4, price x production column, write the total of production (2) multiplied by price (3)
- At the bottom of the grid write the total of column 2 and 3.
- If there was any other crop than given in the list, mention the name of the crop and required details.

1	Did you grow Kharif crops last year?	If yes, proceed with the section else go to Q3		**If yes,** How many crops cultivated in this Write the details below. If no skip to Q3.			season?
	Variable	**Name of the crop**		**Value**			
2	Cropping pattern and production near CRW in **Kharif** last cropping season	SN	Crop	Area under production in acre	Prod. in quintal	Av price per quintal last year	Price X Production
		1	Millet – jwar, bajra, kodo, maize				
		2	Rice				
		3	Arhar				
		4	Vegetables – write name				
		5	Nuts– write name				
		6	Fruit (singhada, mango, etc) – write name				
		7	Other – specify				
			Total				
3	Did you grow Rabi crops last year?	If yes, proceed with the section else go to Q5		**If yes,** How many crops cultivated in this Write the details below. If no skip to Q5.			season?
4	Cropping pattern and	SN	Crop	Area in Production	Prod. in Quintals	Average price per quintal	Price X production
		1	Wheat				

	productio n near CRW in last **Rabi** cropping season							
			2	Barley (Jaw)				
			3	Gram				
			4	Mustard				
			5	Maize				
			6	Vegetable				
			7	Fruits name				
			8	Others				
				Total				
5	Did you grow Rabi crops last year?		If yes, proceed with the section else end the survey		**If yes,** How many crops cultivated in this season? Write the details below. If no end the questionnaire			
6	Cropping pattern and production near CRW in last **Zayed** cropping season		S.N	Name of the crop	Area in Production	Prod. in Quintals	Average price per quintal	Price X production
			1					
			2					
			3					
			4					
				Total				

Thank the respondent for his/her time for administering the survey

5 Annexure

FORMAT 1: MEASUREMENT OF BIO-PHYSICAL INDICATORS OF CRW

Section A. Basic information

1	**State**		**7**	**Name of the Engineer**	
2	**District**		**8**	**Name of CSO**	
3	**Block**		**9**	**Name of the CRW**	
4	**GP**		**10**	**ID of CRW**	
5	**Village**		**11**	**Type of work**	
6	**Date**		**12**	**No of integrated MGNREGA works**	

Section B. Measurements

Fill those that are applicable. If not, mark NA

B1: Block Plantation								
1	No of plants planted on the CRW (Block plantation)	S.N	**Name of the plant**	**Area under plantation (in acre)**	**Spacing**		**No of sapling planted**	**No of sapling in 10mx10m**
					P to P (in m)	R to R (in m)		
			As per the department write these nos					Counted at the site
			1	2	3	4	5	6
		A						
		B						
		C						
		D						
		E						
			Total					

B2.1 : Single Line plantation									
2	Single line plantation	S.N	Name of plant	Length of plantation in meters	Spacing P to P(in m)	No of sapling planted	No of sapling in the beginning in 30 meter	No of sapling in the middle in 30 meter	No of sapling at the end in 30 meter
			1	2	3	4			
			As per government records						
		A							
		B							
		C							
		D							
		E							
	Total		Total						
B2.2: Multiple line plantation									
3	Multiple line plantation	S.N	Name of plant	Length of plantation in meters	Spacing		No of sapling planted	No of sapling in the beginning in 30 meter	No of sapling in the middle in 30 meter	No of sapling at the end in 30 meter
					P to P	R to R				
			1	2	3	4	5			
			As per government records							
		A								
		B								
		C								
		D								
		E								
			Total							

4	In case of land development work write area of land treated (completed) so far (in hectare)	

B3: Water level measurement				
5	Water level in the nearest water body (Well/tube well – at least 2-3 well/tube well) Below write the name and location of the three structures (**str**) identified for measurement.			
	Name and landmark of the structure		Lat	Long
a				
b				
c.				
	Name of the structure	**Of Str a (in meters)**	**Of stc b (in meters)**	**Of Stc c (in meters)**
I	Parapet wall breath			
Ii	Diameter of the well			
Iii	Height of wall from ground level			
Iv.A	Total depth of well from parapet wall			
Iv B	Depth of empty well from parapet wall			
Iv C	Water level in well (A-B)			

FORMAT 2: FARMER'S INTERVIEW

Section C. Basic information

1	**State**		**7**	**Name of the CSO mobilizer conducting the interview**	
2	**District**		**8**	**Name of CSO**	
3	**Block**		**9**	**Name of the CRW**	
4	**GP**		**10**	**ID of CRW**	
5	**Village**		**11**	**Type of work**	
6	**Date**		**12**	**ID of the respondent**	

Section D: Respondent basic information

1	Name of the respondent			2. Gender of the respondent	1. Male 2. Female
3	Age	……. Years			
4	Father name				
5	Caste of the respondent	1. SC 2. ST 3. PVTG 4. Other backward classes 5. General			
9	Respondent relationship with the owner of this land?	1. Self 2. Husband/wife 3. Mother/Father 4. Grandfather/Grandmother or great grandfather/ great grand mother 5. Previous generation uncle/aunt 6. Tiller – land on lease 7. No relation 8. Some other relation			
10	How much is your land holding in this command area	a	Own	In Ha	
		b	Leased out	In Ha	
		c	Leased in	In Ha	
		d	Total holding (a+c-b)	In Ha	
11	Category of the farmer as per land holding	5. Marginal – up to 1 ha 6. Small - 1-2 ha 7. Medium -2-4 ha 8. Large - > 4ha			
12	According to you how much area will be irrigated with this CRW (when it will be completed)? [command area]			In acre	

Section E: Production

1	Did you grow Kharif crops last year?	1. Yes **2.** No		**If yes,** How many crops cultivated in this season? Write the details below. If no skip to Q3.			
	Variable	**Name of the crop**		**Value**			
2	Cropping pattern and production near CRW in **Kharif** last cropping season	SN	Crop	Area under production in acre	Prod. in quintal	Av price per quintal last year	Price X Production
		1	Millet – jwar, bajra, kodo, maize				
		2	Rice				
		3	Arhar				
		4	Vegetables – write name				
		5	Nuts– write name				
		6	Fruit (singhada, mango, etc) – write name				
		7	Other – specify				
			Total				
3	Did you grow Rabi crops last year?	1. Yes 2. No		**If yes,** How many crops cultivated in this season? Write the details below. If no skip to Q5.			
4	Cropping pattern and production near CRW in last **Rabi** cropping season	SN	Crop	Area in Production	Prod. in Quintals	Average price per quintal	Price X production
		1	Wheat				
		2	Barley (Jaw)				
		3	Gram				
		4	Mustard				
		5	Maize				
		6	Vegetable				
		7	Fruits name				
		8	Others				

				Total				
5	Did you grow Rabi crops last year?		1. Yes 2. No	**If yes,** How many crops cultivated in this season? Write the details below. If no end the questionnaire				
6	Cropping pattern and production near CRW in last **Zayed** cropping season		S.N	Name of the crop	Area in Production	Prod. in Quintals	Average price per quintal	Price X production
			1					
			2					
			3					
			4					
				Total				