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Organizational Midline Study **Karnal, Haryana State, India**

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Organizational Midline Study: Karnal, Haryana State, India

CGIAR Research Program on Climate Change,
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Introduction

The Consultative Group on International Agricultural Research (CGIAR) Research Program on Climate Change, Agriculture and Food Security (CCAFS) is a major research partnership that is active in five regions, namely South Asia, South-East Asia, East Africa, West Africa, and Latin America. When CCAFS began its programs in 2011, baseline surveys were carried out in 21 research sites across 17 countries within these five regions. The surveys were conducted using standardized tools developed by CCAFS which included a quantitative household survey, a qualitative village study and an organizational survey.

Seven years after the baselines were conducted in South Asia, CCAFS conducted midline evaluation surveys. The midline surveys compared findings with information collected at the times of the baseline to track the performance of the Climate-Smart Villages (CSV) sites and measure the impact on beneficiaries. With a few improvements, the same standardized tools were used to carry out the midline to ensure comparability with the data collected previously.

In 2011, CCAFS conducted a baseline study in India which included a household survey, a qualitative village study and an organizational survey at two CCAFS sites, i.e., Karnal district in Haryana and Vaishali district in Bihar. To measure the impact of the program, the BISA-CIMMYT conducted a midline study containing the same three components, i.e., Household Midline Surveys (HMS), Village Midline Surveys (VMS) and Organizational midline surveys (OMS). This report summarizes the findings from the Organisational Midline Survey (OMS) carried out in June 2019. CCAFS' organizational-level Midline studies supplement the quantitative household Midline surveys and the qualitative village Midline studies conducted at the same locations.

During this exercise in Karnal district, organizations were consulted on their farming activities, the impact of climate change and/or state of natural resources. A total of nine interviews were conducted with organizations which are working or collaborating with farmers in the district.

The Household Midline Survey and Village Study recorded crop production as the main occupation in the area, specifically in integrated livestock and agricultural systems.

The objectives of the organizational midline study are to:

- Provide indicators to allow us to monitor changes in behaviours and practices of locally relevant organizations over time
- Understand the provision of information/services at the local level which guides farmers' decision making, including their livelihood strategies in response to climate change's impacts

Organizations interviewed

As a part of the study, CCAFS conducted participatory village study in Pakhana village. During the study, mapping exercises were conducted with the participants to draw the institutional landscape. Two separate exercises were conducted, one with men participants and one with women participants only.

Further, participants were asked to prioritize by listing only the most important institutions impacting people's lives. Proximity to the village was also considered with participants placing the institutions in three different circles representing ease of access. The participants also indicated the degree of involvement and activeness of the organization as well as providing details on the services offered. A total of twelve organizations were characterized according to their interventions in food security issues, food crises and Natural Resource Management (NRM). One organization, namely the Krishi Vigyan Kendra (KVK), was added due to its importance for agricultural activities in the area.

Following this participatory exercise to identify the relevant organizations in the area under study, interviews were conducted with nine different organizations on Karnal site. A guided questionnaire developed by BISA-CIMMYT was used to collect information. The organizations which were not involved in food security or NRM were not considered for interview.

The table below details the different activities undertaken by each of the nine organizations selected for interview:

Organization	Main areas of activity
Anganwadi	<p>Anganwadi is the village/ hamlet level organization of the Department of Welfare and Health which runs under the Integrated Child Development Services program (ICDS). The Anganwadi focuses on the nutritional and health needs of children (under the age of 6 years) as well as on pre and post-natal care for women. It provides food, preschool education, primary health care, immunization, health check-up, and referral services.</p> <p>The Anganwadi worker of Pakhana was interviewed.</p>
DAH&D (Department of Animal Husbandry & Dairying)	<p>The department-run vet offices and sub-centers provide vaccination, deworming and artificial insemination (AI) services to dairy farmers. As the area is known for its commercial dairy production, the DAH&D promotes the cultivation of green fodder by providing of seeds. It also conducts animal health camps periodically.</p> <p>The Veterinarian of the Pakhana Government Dispensary was interviewed.</p>
DoA (Department of Agriculture)	<p>The department, promotes quality agricultural inputs through its extension activities, for instance by subsidizing the production and use of green manure. Subsidies in cash are provided to farmers through the DBT (Direct Benefit transfer). Its extension wing also informs farmers on improved agronomic practices. This is based on a model where technologies developed in laboratories are then taken to the farmers, notably to stop residue/stubble burning and promote maize cultivation.</p> <p>The Block Agricultural Officer was interviewed.</p>
PACS (Primary Agricultural Cooperative Credit Society)	<p>It is a farmer cooperative organization active at the village level. The services provided include the provision of credits and agricultural inputs. The cooperative also mobilizes farmers savings and buys grains from farmers at listed procurement prices.</p>
PI (Gram Panchayat)	<p>Last-mile system of local self-governance in the Indian democracy. The elected members, namely the ward members and the Sarpanch, facilitate the governance and implementation as well as monitoring of all government-related projects and schemes.</p>
APMC (Agriculture Produce Market Committee)	<p>The committee at Taraori is engaged in the procurement of food grains and other agricultural produces.</p> <p>Moreover, the committee is also in charge of compensating workers for losses due to accidents linked to farming operations.</p>
Krishi Vigyan Kendra, i.e., KVK (Agriculture Science Centre)	<p>The centre provides extension services, notably on areas such as improved farm technology and demonstration plots.</p>
Added Organizations	Activities and why they were included
Co-Operative Bank, Taraori	<p>This was included because the cooperative bank provides credits through the Kisan Credit Card (KCC), as well as personal loans and crop insurance packages to farmers.</p>
Public Distribution System (PDS)	<p>The PDS is ensuring adequate food security for the resource-poor.</p>
Eliminated Organizations	Why they were not included
School	<p>The school was excluded because its activities are not directly related to food security, agricultural development or weather/climate change.</p>
Gurudwara	<p>Not included as there is no direct relation to NRM and/or climate change.</p>
Department of Forest	<p>Not actively working in the area.</p>
Department of Electricity	<p>No active relation with NRM and/or climate change-related work.</p>

Inconsistencies and challenges

During the interviews with the organizations' representatives, the respondents mentioned several activities being implemented in the field. These activities were also commented on by the villagers during the FGDs and households' surveys as well as during more informal interactions. Some inconsistencies were found and are discussed below.

The bi-annual camps conducted by the DAH&D are not seen as beneficial to the farmers as livestock rearing in the area is already well developed. There is a need for regular interventions in health and sanitation. Farmers thus do not rely on these camps and prefer to seek help from veterinarians.

The Anganwadi is of low importance for the community as the more prosperous farmers are opting for Play Schools or Saraswati Vidya Mandir and consider the facility to be sub-standard.

The KVK claims to promote high-value crops among the farmers, yet, as the household survey reported, the primary crops remain paddy and wheat. The KVK also claims that it has been advocating for a reduction in the use of chemical fertilizers and pesticides. However, the farmers reported using high doses of fertilizers and pesticides for the cultivation of Basmati Rice and wheat. Furthermore, soil testing activities are not popular among farmers.

The bank representative mentioned the bank's actions in promoting less water consuming crops.

Regarding access to weather related information, only 5.88% of households reported receiving weather information from government officials.

Respondents identified the following as being their main challenges in delivering services and providing information to farmers:

- No existing program or platform to discuss with the senior authorities
- Lack of awareness among farmers
- Reluctance due to the guaranteed market for the promotion of other crops (other than paddy and wheat)
- Lack of incentives to stop stubble burning or the high use of chemical inputs as well as to promote water conservation
- Improper/ insufficient allocation of qualified and trained human resources, funds, and time
- Farmers fear a reduction in productivity if they adopt organic farming

- Procedural delays in the identification of target groups

Apart from the Block Agriculture office, which seems to be well connected with other organizations, there is a lack of coordination and knowledge among the different functionaries.

Summary of activities

Based on information obtained from the organizational surveys, the most important objectives are:

1. provision of modern agricultural technologies through extension and demonstration
2. providing proper nutritional health and food security through the Anganwadi centre
3. provide credits to the farmers through various institutions
4. immunization and treatment of animals
5. promotion of fodder production
6. facilitation for the marketing of produces (input and output)

Natural resource management

As per the organizational survey, five out of the nine organizations provide services and information related to natural resource management.

The KVK has been raising public awareness on issues of land degradation and deterioration of soil quality. The causal factor identified has been the overuse of chemical inputs with very few farmers using organic manure. Crop-rotation, which is essential for increasing soil nutrient, nitrogen fixation as well as biological control of pests, is not practised. The commercially oriented production of rice and wheat is the prime factor. In particular, flooded rice fields have been pointed out as one of the causes of greenhouse gases emissions. The APMC of Taraori advises farmers to diversify crops while promoting reasonable and profitable use of land resources.

The agriculture department (DoA), through its block office, provides financial incentives to promote Direct Seeded Rice techniques which reduces the amount of water used during transplanting. The amount of the incentive provided is Rs. 5,000 per acre (Rs. 12,500 per hectare). The subsidy is broken down into Rs. 2000 given as cash, Rs. 2000 in the form of inputs and Rs. 1000 for insurance. The department provides Direct Benefit Transfer to the farmers. The department has also been training farmers on crop residue management as an alternative to stubble burning, which is a major cause of air pollution in the northern Indian sub-continent. It also promotes various government-related schemes to improve agriculture and

food security, such as the NFSM (National Food Security Mission) or the GFDP (Green Fodder Development Programme). Some of the activities include CRM (Crop Residue Management), SMAM (Sub Mission on Agricultural Mechanisation) and CSV (Climate-Smart Village).

The KVK has been providing extension services to the farmers, for instance promoting the Increased production of green manure and application of compost. The KVK also runs regular training programs for farmers on improved agricultural practices and natural resources management.

The Gram Panchayat (PI) of Pakhana disseminates information through a door-to-door campaign on water management, depleting groundwater table and the importance of water management. The emphasis is now put on promoting paddy rice cultivation during the rainy season to avoid the overexploitation of groundwater. The attempt seems to have little effect on farming practices. For water storage and groundwater recharge, the Panchayat has been using the Mahatma Gandhi National Employment Guarantee Scheme (MGNREGS) for the creation and revival of water bodies.

The Department of Animal Husbandry & Dairying (DAH&D) has been encouraging each farmer to plant fodder trees, which helps in greening the area and eases the burden on the farmers to procure fodder. The department provides each farmer with ten saplings.

The APMC has been promoting crop diversification and encouraging farmers to cultivate maize and pulses instead of paddy to reduce the use of water and in particular to restrict the use of groundwater. There have also been efforts to promote tree plantation. Field bunding and other rainwater harvesting mechanisms are encouraged.

Reduction of risk due to climate variability

The PACS Taraori provides information through the Agriculture and Meteorological department. The Block Agriculture-office also provides weather-based information via direct messages. The AMPC/Anaj Mandi Taraori has a toll-free helpline number (1800 1802 060) made available to the farmers where they can get information about the Minimum Support Price (MSP) for all crops.

The Co-operative bank encourages farmers to take up vegetable farming and to diversify their crop production.

The DoA has created a farmer database and provides weather-related information to the farmers through direct messages (SMS). The department also promotes the replacement of paddy rice cultivation by maize by providing subsidies and inputs in the form of seeds and fertilizers under the Rashtriya Krishi Vikas Yojana (RKVY) scheme.

Activities' relationship to climate change

Although the activities mentioned in the above sections might be indirectly related to climate change mitigation, their main objectives are not directly linked to tackling the climate change-related issues. Hence this section includes information about the organizations who directly associate their work with climate change-related activities. For instance, the activities related to water conservation and water management are activities that can be associated with efforts to also address climate change's negative impacts on water resources in the district such as the additional stress it put on available water resources as rainfalls become more erratic.

Moreover, three (out of 10) organizations directly state conducting climate change related activities. The Department of Animal Husbandry has been working towards climate change related activities for four years while the Block agriculture- office has been working towards the same for the past 8-10 years.

The DoA and APMC are encouraging farmers to cultivate maize and pulses instead of paddy since the crops are less water intensive. There are also efforts to encourage crop diversification to reduce losses and dependency on one or two crops. The Minimum Support Price (MSP) has been an effective mechanism to encourage farmers to cultivate other crops. The block agriculture office (DoA) asserts that it also promotes mitigation efforts and provides high subsidies to farmers. There have also been efforts to promote Direct Seeded Rice as mentioned earlier.

Climate change related information communicated among the respondents is few and is limited to depleting ground water and erratic rainfall. There has not been a deep engagement at the policy level in the region with climate change as the area is prosperous and adaptation a household level endeavour. Major public policies are still not focused on climate change with the government not prioritising it. The mindless exploitation of groundwater will have grave sequences for the farmers of the area in the coming years.