

# Digital Green

## Impact of Covid-19 second wave on the Indian farming community:

Report of a rapid assessment in four states – Andhra Pradesh, Bihar, Jharkhand and Odisha



Photo courtesy: Aniruddh Kaushal/ Digital Green

### CONTEXT

When Covid-19 hit India and the world, most economic activities came to a standstill, but the agriculture sector weathered the surge and was one of the only sectors to grow. When the recently published Economic Survey expected the country's economy to contract by 7.2 percent in 2020-21 but it projected only the agriculture sector to grow at 3.4 percent during the financial year. The second wave of the pandemic in the country and the following transport restrictions and other measures to control its spread came at a time when the rabi (winter) crop was ready for harvest. While the agriculture sector, which is the mainstay of employment and income for rural India, survived the first wave, the second wave of Covid-19 put new challenges to the farmers, who are already under pressure due to climate changes, price volatility and rising debts.

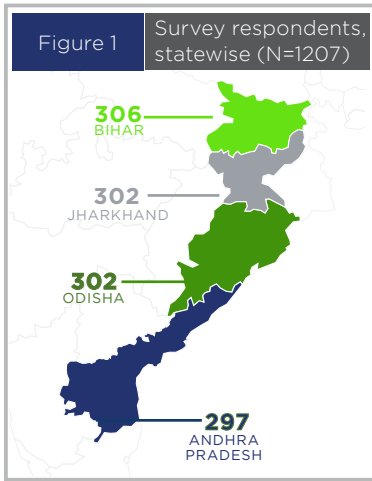
Since 2012, Digital Green (DG) has been working with National Rural Livelihood Mission and their state counterparts, and the Department of Agriculture in various states, to empower small-scale farmers in India to lift themselves out of poverty by harnessing the collective power of technology and grassroots-level partnerships. Working with state rural livelihood missions and other partners and community groups, such as farmer producer organizations (FPOs) and self-help groups (SHGs), we adopt a farmer-centric process that ensures millions of farmers adopt at least one or more of improved agricultural

practices promoted and discussions for improved productivity and sustainable livelihoods.

It is in this context that Digital Green reached out to the farming communities it works with to understand the impact of Covid-19 on the smallholder farmers and how they are coping with the Covid-19 pandemic. Digital Green conducted a rapid assessment with farmers to understand –

- (1) The challenges presented by Covid-19 to harvesting of rabi (winter) crops and selling the harvested crop,
- (2) The difficulties that farmers foresee in cultivating and harvesting the kharif (summer) crop due to the pandemic,
- (3) The support that the farmers would require in selling their rabi harvest and in cultivating the kharif crops
- (4) The utility of digital extension channels to reach farmers with agronomic advisories, and
- (5) The willingness and preference of the farmers to use digital extension channels.

The finding of this survey is expected to contribute to the ongoing efforts of the central and state governments, agricultural organizations, as well as the donor community to develop and implement mitigation measures to transfer resources more effectively to agricultural communities, ensure resilience of farmers and build a sustainable food system.



## SURVEY MECHANICS

The phone-based survey was conducted in four of the Indian states – Andhra Pradesh, Bihar, Jharkhand and Odisha, where Digital Green has ongoing initiatives with the agricultural extension system and the farmers.

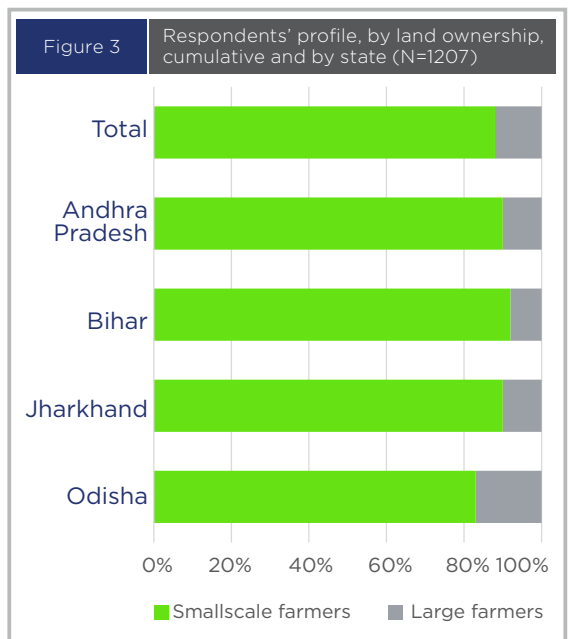
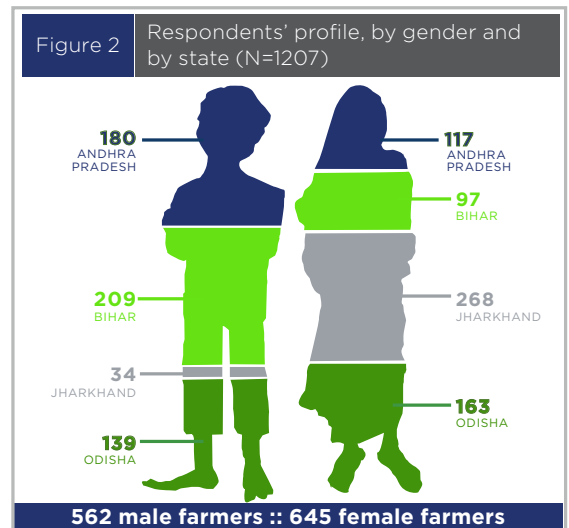
The respondents to the survey were randomly selected from a database of farmers in 16 districts in the four states, who received audio and video-based agriculture extension and market access related advisories from Digital Green and our partners. The 45-question telephonic survey conducted at the peak of the second wave of Covid-19 in the country, from May 17 to May 25, 2021, received responses from 1,207 randomly selected farmers.

## RESPONDENTS' PROFILE

The survey collected farmers' information on various demographic factors, like their gender, age, social background, number of family members, household income (Below Poverty Line data), size of landholding and membership to FPO, to better understand the characteristics of the respondents. Presented below are their profile on three characteristics – gender, landholding and FPO membership.

- Gender:** The proportion of men and women respondents was 47 percent and 53 percent respectively, with state-wise variations. In Andhra Pradesh and Bihar, there were more men farmers among the respondents than women farmers, whereas in Jharkhand and Odisha, more women farmer than men farmer respondents to the survey.
- Landholding status:** 88 percent of the respondents were small-scale farmers, with less than two hectares (2 Ha) of land owned. The state wise share of small-scale farmers among respondents ranged from 83 percent in Odisha to 93 percent in Bihar.
- FPO membership:** Only 30 percent of all respondents were a member of an FPO, with 10 percent respondents not aware of what is an FPO.

Nearly half (49%) of the respondents in Bihar claimed to be members of an FPO, as against only four percent of respondents in Odisha being an FPO member. Jharkhand had the largest proportion of respondents (23 percent) who did not know an FPO.

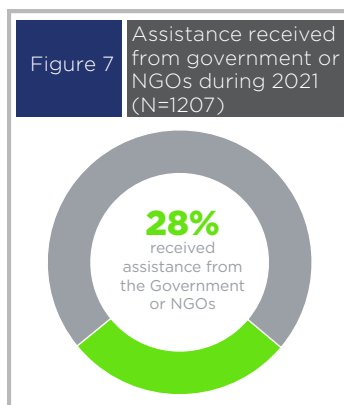
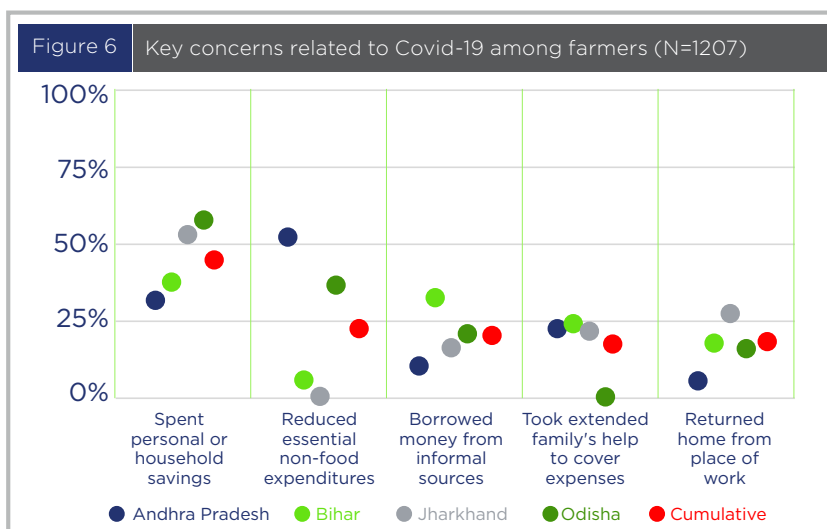
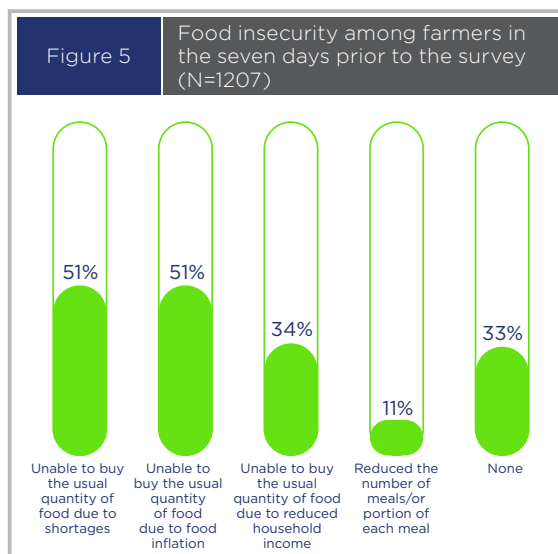
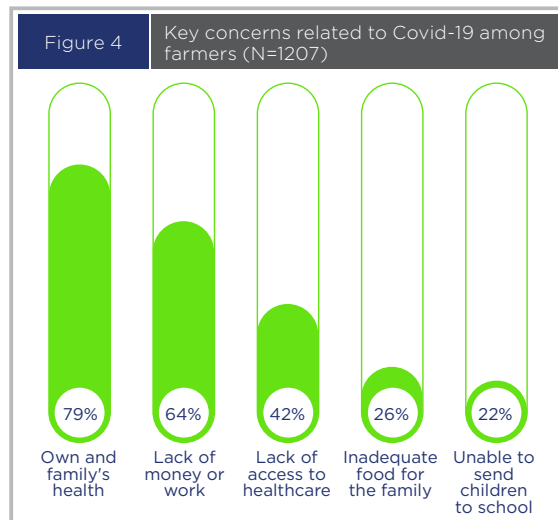


## KEY FINDINGS

### Covid-19: Its awareness, concerns about its impact and impact of the pandemic on the farmers' lives

- The awareness of Covid-19 among farmers was nearly universal. At least 99 percent of them across the four states reported having heard of Covid-19, with 11 percent of the farmers reporting at least one member of their family ever getting infected with Covid-19.

- Nearly four-fifths of the farmers expressed concerns for **their own and their family members' health** (79%) as the top of the three main concerns related to Covid-19, followed by lack of money or work (64%) and **lack of access to healthcare or medical care** facilities (42%). **Not having enough food for the household** (42%) and **not being able to send their children to school** (36%) were among the main three Covid-19 related concerns among farmers in Bihar and Jharkhand respectively.
- One in every two farmers expressed inability to **buy the quantity of food they earlier did due to drop in household income** (51%), or because of a **sharp increase in the food prices** (51%). Another one-third of the respondents shared that they were unable to buy food because of **food shortages** (34%) during the second wave of the pandemic. **Bihar was exceptional**, where 81 percent farmers reported that they are not experiencing any additional food insecurity due to the pandemic.
- Nearly half of the farmers had started **spending their personal and household savings** (46%) to tide over the pandemic, with another one-quarter of them **reducing expenditure on non-food essentials** (24%), like healthcare, education and clothing. One fifth of the farmers also reported about **borrowing money from informal sources** (21%), like friends, informal saving groups and local money lenders.
- A little over one-fourth of the farmers reported that they had **received assistance either from the government or NGOs** (28%) this year, but this varied significantly by the state. 65 percent respondents in Jharkhand, where Digital Green worked with women farmers through the state rural livelihood programs, claimed that they have received assistance during the pandemic, as against 99 percent respondents in Odisha, who claimed not to have received any assistance this year.
- The three main types of assistance that the farmers claimed they have received were **free food rations for household**



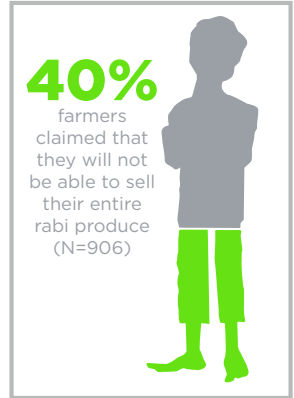
(42%), **agricultural and market related advisory** (31%) and **public health messages on Covid-19** (24%), including its symptoms and prevention. Agricultural and market related advisory (86%) was the leading response from majority of the respondents in Andhra Pradesh. Other assistance that had higher response in the states were **personal safety materials, like masks and sanitizers** in Andhra Pradesh (29%) and Jharkhand (22%) and cash transfers to bank accounts (30%) in Bihar.



## Covid-19: Its impact on rabi crop yield, harvesting and sales this season

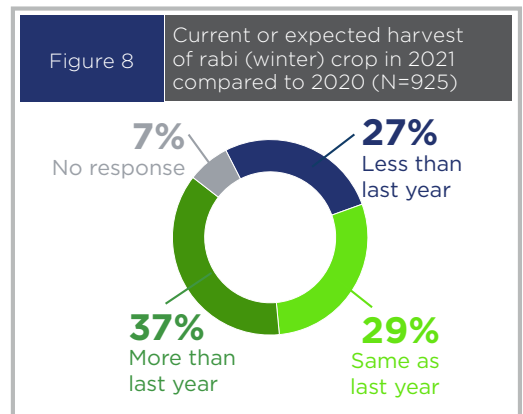
As the survey happened at a time when many farmers preparing to harvest or had recently harvested the rabi (winter) crop, while others were preparing to sow the kharif (summer) crop, we took this opportunity to ask about and understand the challenges the farmers are facing with rabi crop harvesting and kharif crop cultivation.

- Most of the respondent farmers had **grown the rabi crop** (77%) this season, with exception to farmers in Odisha where majority of the respondents (57%) had not cultivated rabi crop. Of those who had cultivated the rabi crop, nearly half of them had **either harvested or were in the process of harvesting** (46%) the crop, or were **either selling or had sold** (32%) their harvest.

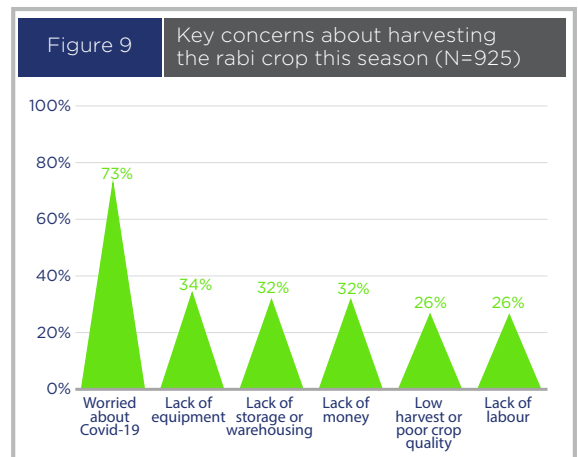


- Two-fifths of the farmers felt that they might not be able to sell their entire harvested crop (40%) in the market.** This concern was highest among the farmers in Jharkhand (62%) and least among the farmers in Odisha (12%). Only around 28 percent of the respondents opined that the **FPOs will be able to help them in selling their produce** this season.

- Overall, nearly three-tenths of the farmers claimed that the crop yield this season was either lower than previous seasons (27%) or same as previous seasons (29%). Another two-fifths of the farmers claimed that their **rabi crop yield this season was more than the previous occasions** (38%). However, **more farmers in Bihar (38%), Jharkhand (36%) and Odisha (41%) claimed that the yield this season was lower than previous seasons.**

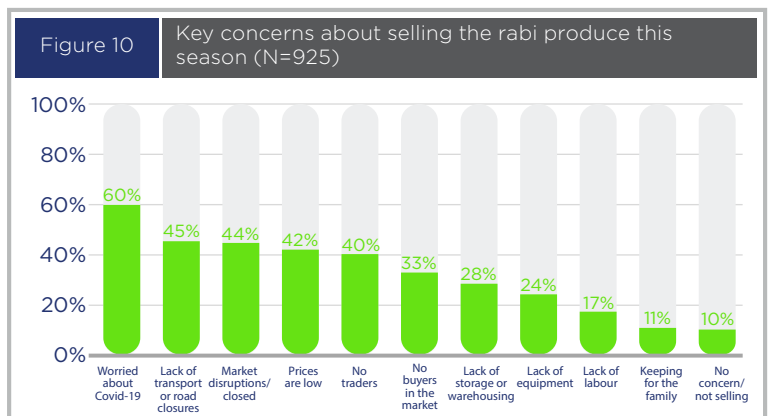


- When asked about their main concerns when they are preparing for harvesting the rabi crop, majority of the farmers shared that they are **worried about contracting coronavirus** (73%). Their other key concerns were **inability to get (either buy or hire) the equipment** (34%) for harvesting, **lack of money** (32%) to pay for labour, equipment or storage, and **lack of storage or warehouses** (32%) to keep the harvested crop. Many farmers in Bihar shared that they were **unable to get labour** (41%) to work their land.



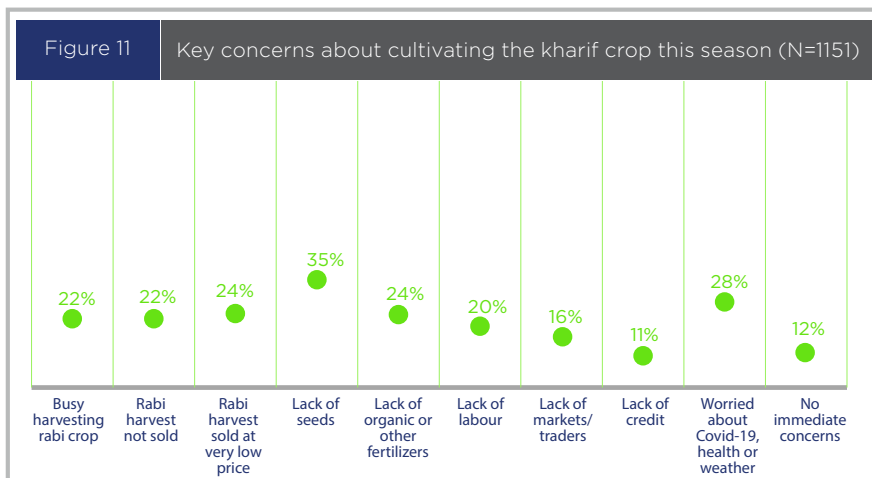
- Many farmers expressed their intent to sell their harvested crop either through **local trader or a commission agent at the farm gate** (41%), or at **other collection centers** (33%), except in Jharkhand and Odisha. Most farmers in Jharkhand prefer to sell their produce directly at the mandis (45%) or at the local haat (33%), whereas as in Odisha most farmers show preference for haat (49%) and direct-to-retail offtakers or institutional buyers, like the Big Basket and Ninzacart (37%).

- Concerns about contracting the **coronavirus** (60%) continued to dominate the mindspace of the farmers, even when trying to sell their produce. Their other major concerns were **lack of transportation or road closures** (45%) put up due to lockdown that was a barrier to taking their produce to market, market closure and markets disruptions (44%) and the likely risk of **getting lower prices for their produce** (42%) due to the circumstances created by the pandemic. Farmers were also worried about **traders not coming to the market** (40%) due to mobility restrictions and the spread of Covid-19 infection.



## Covid-19: plan for the kharif season and concerns

- Most of the farmers shared that they **plan to grow crops this kharif season** (95%) this season.
- Farmers expressed several concerns as they prepare for cultivating the kharif crop. Some farmers were concerned about lack of input, like **seeds** (35%), **organic or other fertilizers** (24%) and **labour** (20%). Some farmers were worried about **contracting the coronavirus or experiencing ill-health** (28%).

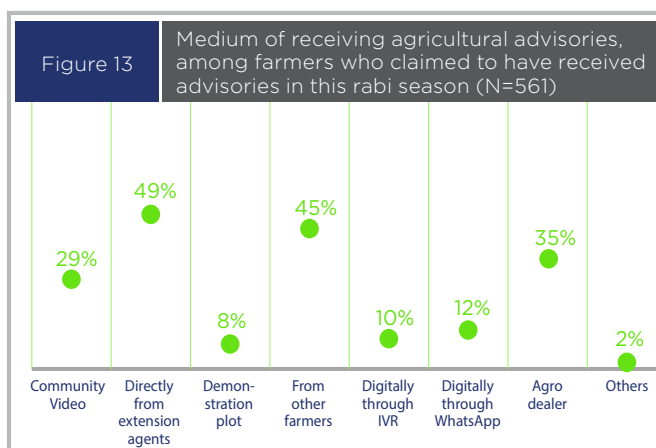
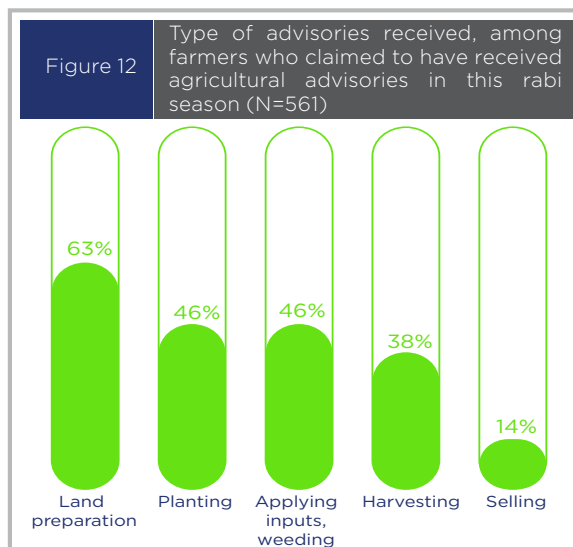


- Many farmers were still in process of either harvesting (22%) or selling their rabi produce (22%) or had sold their rabi produce at low price (24%) at the time of survey and were concerned that they did not have adequate money to invest in the cultivation of kharif crop. This was reported more by the farmers from Andhra Pradesh.

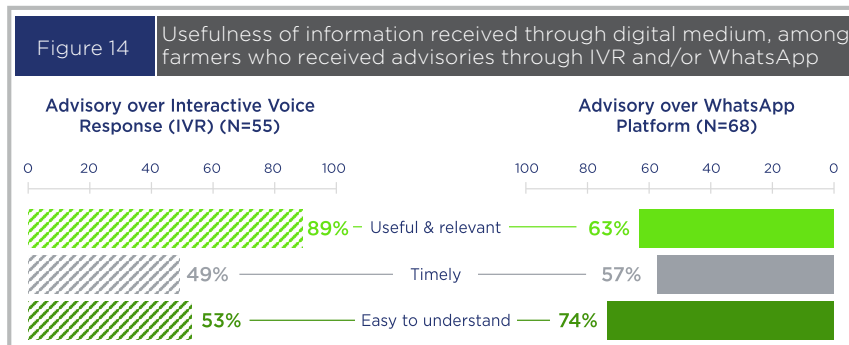
- Between men and women farmers, men farmers were more concerned than women farmers about contracting the coronavirus (36% vs 20%), lack of labour (25% vs 16%) and still being busy with harvesting the rabi crop (25% vs 20%). Women farmers were more concerned than men farmers about selling their rabi harvest at very low prices (32% vs 16%), lack of organic or other fertilizers (30% vs 17%) and lack of seeds (37% vs 32%) for their kharif season.

## Experience with agronomic advisories during rabi season

- Less than half of the farmers **received agricultural advisories** (46%) during the rabi season. More farmers from Andhra Pradesh (86%) and Jharkhand (59%) reported receiving agricultural advisories than in Odisha (25%) and Bihar (12%).
- Nearly two-thirds of the farmers claim to have received advisories on **crop cultivation practices** (63%), like applying fertilizers and weeding, followed by advisories on **land preparation** (46%) and **harvesting** (46%) during the rabi season.
- Majority of the farmers received these advisories directly from the **extension agents** (49%), followed by the information shared by **other farmers** (45%), **agricultural dealers** (35%) and **community video** (29%), yet there were wide state-wise variations. Farmers receiving information digitally through **over interactive voice response (IVR)** or **WhatsApp** were 10 and 12 percent respectively. A large share of respondents in Andhra Pradesh got their advisories through community video (58%) as against many farmers in Odisha receiving them over IVR (68%) or WhatsApp (56%).
- Of the farmers who received the advisories through IVR, more respondents found them to be **useful and relevant** (89%) and **easy to understand** (53%) than **timely** (49%).

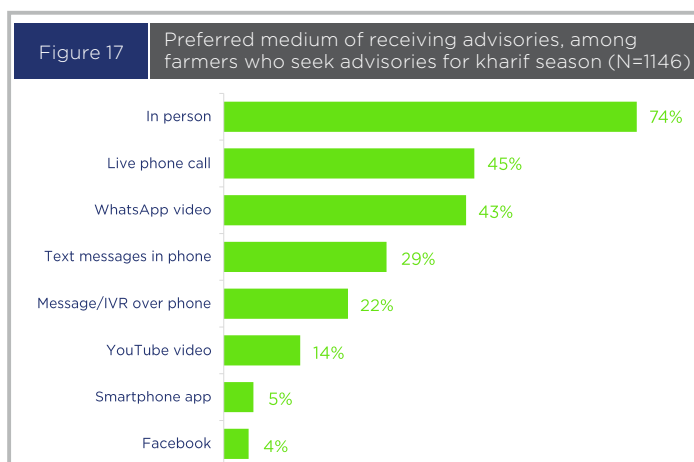
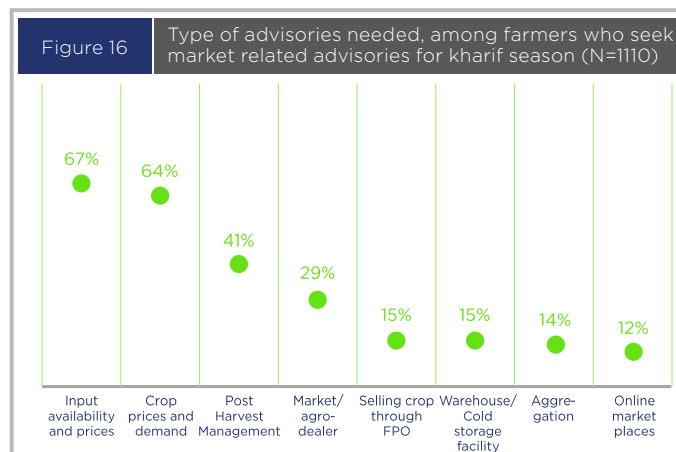
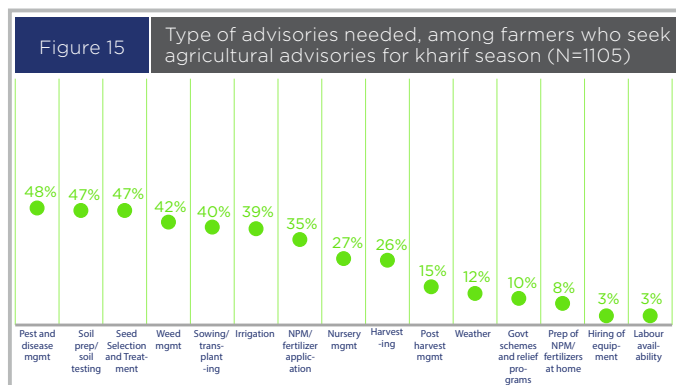


- Of those who received the advisories over WhatsApp, most found them to be **easier to understand** (74%), **useful and relevant** (63%) than **timely** (57%).
- One of every two farmers (52%) who received advisories over digital medium, like WhatsApp, community video and IVR, recommended extending digital services to other farmers.



### Support farmers need for the kharif season

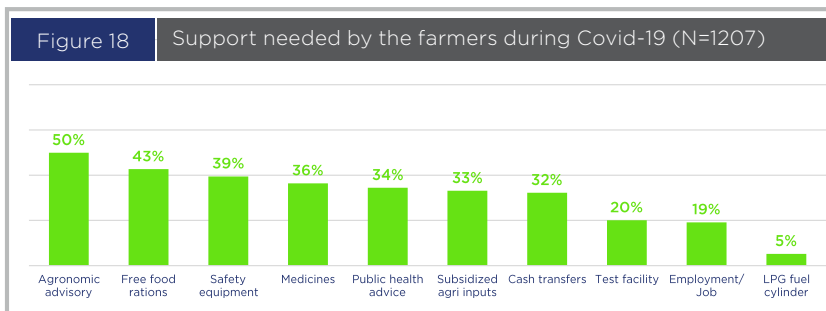
- Nearly all the farmers expressed need for **agricultural advisories** (92%) as well as **market advisories** (92%).
- The major agriculture related topics on which they sought advisories were **pest and disease management** (48%), **seed selection and treatment** (47%), **soil preparation and testing** (47%), **weed management** (42%), **sowing and transplantation** (40%) and **irrigation** (39%).
- The major market related issues where farmers need advisories were **input availability and prices** (67%), **crop prices and demand** (64%) and **post-harvest management, like storage, quality grading, etc.** (41%).
- Although a large proportion of farmers continued to prefer the **advisories to be delivered in person** (74%) in spite of the pandemic, many farmers also opted for advisories to be delivered via **live phone call** (45%), **WhatsApp videos** (43%) and **text messages on phone** (29%). Around one in every five farmers preferred **advisories through IVR** (22%), with 14 percent seeking YouTube videos on agronomic advisories.
- More men farmers than women farmers have expressed need for advisories on soil preparation and testing (44% vs 34%), seed selection and treatment (46% vs 41%), pest and disease management (58% vs 53%).
- More women farmers than men farmers have sought advisories on sowing and transplantation (57% vs 46%), nursery management (69% vs 54%), irrigation (74% vs 67%), post-harvest management (63% vs 49%), harvesting (86% vs 73%), warehouse and cold storage facilities (67% vs 56%) and input on availability and prices (52% vs 41%).



### Support needed by the farmers during Covid-19 pandemic period

- Farmers sought access to **agriculture and market related advisories** (50%), **subsidized agricultural input** (33%) and **cash transfers to bank account** (32%) to ensure their economic security.

- Many farmers asked for **free food rations for household** (43%) for their food security.
- Access to healthcare information and services was also sought by the farmers. They need **equipment, like masks and sanitizers** (39%), **medicines** (36%), **public health messages** (34%) on Covid-19 and **access to testing facilities** (20%).



## PRIORITIES AND RECOMMENDATIONS

The second wave of pandemic have had a much bigger and deeper impact on the lives and livelihoods of people and similar implications are noticed amongst farmers too. As the first wave of the pandemic proved, the role of small holder farmers in maintaining local food security, ensuring employment and contributing to local economies are critical. It is thus important to specially address the issues and concerns of small farmers in a timely and effective manner as their production, market and economic actions are important for the larger revival and recovery of the society from the impact of pandemic.



### Provide market intermediary support for agricultural input and for sale of produce

The study highlights the need to address the acute market related challenges faced by farmers that results in significant wastage of produce as well as loss of income. Concerns of farmers have been highlighted during the first wave of Covid-19 pandemic as well as during the current phase that warrants immediate and longer term measures.

- Innovative measures like roaming or mobile Mandis during lockdowns and similar situations that affects normal market actions and movements should be promoted. Taking Mandis closer to farmers and ensuring that their produces are collected at regular intervals have multiple implications both for farmers as well as for consumers. While governments can consider providing necessary regulatory guidelines, FPOs and CSOs on ground can become the facilitators in that process.
- While reports say that digital connectivity and data use has increased during Covid-19 pandemic, there is also a huge opportunity in bridging existing gaps by creating and promoting localised digital market place tools and easy to operate systems. Local discovery of farmer produces by local consumers can help farmers directly sell their produce to local consumers than waiting for Mandis to open. While this will require a mindset change and adapting to new methods, FPOs and NGOs can play a facilitating role to achieve this.
- Technology can also play a vital role in providing necessary advisories and information to farmers on real time market news and situations, thereby helping farmers to identify and contact those markets that are open and available for trade. Government can play a role in ensuring transparent information exchange between markets and farmers and technology service providers and social start ups can play a critical role in developing necessary tools and processes to this effect.



### Enhance knowledge of and access to the government entitlements

- There are a number of schemes and relief packages government at centre and states have announced, including market stimulus packages. The study showed that many of the farmers do not receive regular and clear information related to these measures and have not received such entitlements and benefits. There is a concerted effort needed to inform the farmers on such programs. Government can help with standardised information and NGOs/FPOs and other actors can disseminate such information through various channels, particularly using telephony and digital communication platforms.
- The messages around government and other schemes available to farmers during the pandemic as well as the procedure to avail benefits under such schemes should be simplified so as to ensure easy access and understanding. This will also help reduce the work load at government departments during such stressful situations and help farmers receive support on time. Digital applications and IVR are some of the technologies that can be adapted and applied to ensure efficient governance of such schemes and programs.



## Customised and integrated agronomic advisories, with enhanced reach to small-scale farmers and women farmers

- Many farmers in our study expressed need for receiving timely, localized, easy to understand and tailor-made agronomic advisories on improving crop production, soil nutrition and managing crops in changing weather conditions. The pandemic prevents in-person meetings, a preferred way for farmers to get agronomic advisories, when they meet village-level extension agents, who screen videos among farmer groups and conduct in-person demonstrations to deliver information on agriculture practices.
- It is critical that the agricultural messages are unified and that the farmers keep getting timely advisories, throughout the crop season. Rural development NGOs, deploying technology for social good, should consider enhancing the use of digital channels, like community video, WhatsApp and IVR, to make agronomic advisories reach the farmers. Donors and the government should support these initiatives with financial and technical support. Local stakeholders, like the agricultural extension agents, farmer groups, FPOs, SHGs and rural intermediaries should be engaged to deliver the advisories using low-cost, audio-visual media in digital media dark areas.
- As majority of the agricultural land ownership in India is with small-scale farmers and often women farmers are missed from the agricultural extension initiatives, efforts must be made to ensure that they are prioritised when delivering agronomic advisories.



## Food Security to Rural Communities

- The farmers in the study have also expressed short-term and medium-term concerns about food security to their families, as they fear loss of income and unsold produce. The government must continue its initiative to provide free food ration during and after the pandemic through the Public Distribution System (PDS), Anganwadi Centres (AWCs) and other channels, as many farmers informed about benefiting from this initiative. Yet, urgent and greater efforts should be made to bring the marginalised rural and tribal households into the coverage of these initiatives, by engaging rural development and tribal development NGOs. To counter the economic impact of the pandemic, the MGNREGA programme can be expanded to cover the health, nutrition and livelihood needs of the rural communities. The government should continue direct cash transfers to farmers for at least one more crop season and expand the scope of such relief measures.
- Corporate can also contribute by adopting villages near their plants and by extending school education, health and food support to rural households, either directly or through CBOs.



## Increase access to Covid-19 information, testing and vaccination services

- The government should expand public health services and encourage private health services to increase coverage of Covid-19 testing and vaccination facilities in rural areas. In addition to health and nutrition workers, agricultural extension agents, FPOs, SHGs and digital channels used for delivering agronomic advisories should also be engaged to deliver Covid-19 related messages on symptoms, management and referral among the rural communities. Engaging agricultural extension agents and setting up e-registration kiosks in FPO offices to register farmers for vaccination will also ensure that the farmers and their families receive vaccination in time.

A multi-pronged technology-based approach can go a long way in preventing millions of households from losing lives and livelihoods, by improving their access to Covid-19 prevention services, supporting farmers to receive information on and use government schemes, and access advisory services that can help them increase their production, and reach markets and buyers to sell their produce at a fair price. The government, agriculture extension services, agriculture research institutes, agri-logistics service providers and agri-tech companies need to join forces to provide relief to the farmers against Covid-19, help them recover from the impact of the pandemic and build long-term resilience against the next wave of Covid-19.