The MPA Team’s core members from GSG College and SESA have personal knowledge of the perspectives and experiences of farmers in Umarkhed Taluk, since they themselves were farmers in Umarkhed, their family members are farmers in Umarkhed, or they work closely with farmers’ families in Umarkhed. However, other core MPA Team members who bring essential knowledge to this project are an ocean away from Umarkhed. To connect all members of MPA’s Team more deeply with food system stakeholders in Umarkhed Taluk, to make certain that a range of stakeholder perspectives was collected, and to validate the GSG and SESA team member’s own impressions and understandings, the MPA Team organized interviews of farmers on their farms in early 2020. These interviews represent the first step in one area of our team’s stakeholder engagement effort. (Members of our team also engaged with research organizations, scientists and academics, NGOs, youth, consumers, preparers, medical and mental health professionals, writers, artists, and others.)
Harnessing the power of the internet to bridge communities half-a-planet away in a fraction of a second, US-based team members met with Umalkhed-based team members via video conference to develop survey questions. The first survey drafts were prepared by Master Gardner Betsy Justus, who has lived and studied for a significant number of years in both the US and India and worked closely with farmers in both countries. Two graduate students at CU-Boulder’s Masters of the Environment program then enhanced the surveys, drawing from their education in systems-thinking and food systems. Next, 30+ undergraduate students at GSG College took the surveys to Umalkhed Taluk’s villages, where many of the students themselves live, and interviewed farmers in the fields. Umalkhed farmers are too busy laboring for basic subsistence to leave their farms, travel to a meeting in town, and pontificate over the future. To engage farmers, the MPA Team goes to them. Finally, two GSG College students reviewed all the survey responses, translated them from Marathi to English, and discussed them with the rest of the MPA Team via video conference.

This approach enables communication, connection, and collaboration among different stakeholders, different knowledge-bases, and different languages, strengthening the ability of the MPA Visionaries to address the challenges of the Umalkhed food system.
Using this approach, interviews have begun of food preparers in village homes, and interviews will be conducted of farming supply shop owners, elders with historical knowledge of farming and diet, medical health professionals, and others. The MPA Team will return periodically to interview and meet with stakeholders to continue to evolve the MPA Vision and MPA Transitional Support Program.

Results of Round 1 Farmer Surveys

Pursuant to the MPA Team’s collaborative approach for engaging producer-farmers, the MPA Team learned or confirmed the following information about farming in Umarkhed Taluk at present (2020):

**Types of Crops Grown**
- Farmers grow wheat, chickpeas, cotton, and sometimes sugar cane. Many prefer to grow sugar cane due to greater profitability. However, many farmers lamented that they cannot grow sugar cane because water is costly and hard to access in enough quantity to grow the profitable-but-thirsty crop.
  - Some farmers say irrigation is useful but cost-prohibitive. Some farmers do not have irrigation and use wells instead. Some wells have dried up. Others use pipelines from the canals, but this method does not provide sufficient water for a good crop.
- Some farmers utilize crop rotations.
  - This may be limited by the types of crops the farmer is able to grow based on soil conditions and water.
Farm management is generally patriarchal, with important decisions about how the farm is run typically made by the eldest male member of the family, such as the father or eldest brother. That said, there are some instances in which other family members participate in decision-making or weigh options together.

- To prevent pest infestation, the farmers that save seed store the seeds with neem leaves.
- Those who are unable to save seeds are at the mercy of shop owners, who set prices, sometimes at unfairly high rates.

There was widespread recognition that the soil quality in the area is declining.

- Many farmers said that water limitations are inhibiting their ability to improve soil conditions.
- Some farmers said that their soil quality was declining due to the use of chemicals, but they also said that they rely on the chemicals in order to maintain a viable crop. This is a vicious loop.
- All farmers till their land. Most rent machines because they cannot afford to purchase them.
Livelihood and Quality of Life

- A typical meal consists of pulses, vegetables, chapati (wheat-based flatbread), and bhakri (millet-based flatbread). Landowners observed that the quality of their meals was better than the average farmer’s meals for their household.
- Finances are tight.
  - Many expressed that they are only receiving enough to pay for costs of inputs, if that. In many cases they don't even break even.
- 4 out 5 farmers use migrant workers, family members and farm laborers
- Neighbors and other farmers assist one another.
  - Sometimes they lend oxen, money, crop seeds, animal products.
  - Loans are often sourced from relatives rather than the bank.
- Access to electricity is restricted primarily to domestic use. Farm-specific electricity may be provided only during certain times of day or night and may not be sufficient in duration or available at an effective time for best production.

Inputs

- All of the farmers surveyed use chemical fertilizers.
  - Sometimes urea and manure were also used.
- Pesticides are used heavily for insect issues.
Some commented that the community doesn’t have a center to provide information and assistance and wanted such a resource. Some reported that some neighbors help each other by lending labor, equipment, livestock, or money when needed.

Support for Farmers in the Community

- Several farmers stated that they will most likely use more fertilizers on their crops next year. Others expressed a desire to do so, but noted that it was cost-prohibitive.
- Farmers emphasized that they need access to more water and better water infrastructure to have success next year.
- Farmers were concerned about subsidies for chickpeas. They are not sure year-by-year whether they will receive assistance.
  - There was a general sentiment among farmers that they are not supported by the government.
  - Some also expressed uncertainty about how to obtain assistance.
- Farmers predicted that they would probably get less than the minimum price (needed to cover their costs) at market for their crops. The prices are neither fixed nor sufficient.
  - Some farmers expressed a desire for conformity and consistency of market prices for cash crops.
- Despite these challenges, many farmers expressed an intent to plant the same crops next year, but ideally with more fertilizer applied in an effort to increase yield.

Our questions also asked farmers to consider the near future:

- Several farmers stated that they will most likely use more fertilizers on their crops next year. Others expressed a desire to do so, but noted that it was cost-prohibitive.
- Farmers emphasized that they need access to more water and better water infrastructure to have success next year.
- Farmers were concerned about subsidies for chickpeas. They are not sure year-by-year whether they will receive assistance.
  - There was a general sentiment among farmers that they are not supported by the government.
  - Some also expressed uncertainty about how to obtain assistance.
- Farmers predicted that they would probably get less than the minimum price (needed to cover their costs) at market for their crops. The prices are neither fixed nor sufficient.
  - Some farmers expressed a desire for conformity and consistency of market prices for cash crops.
- Despite these challenges, many farmers expressed an intent to plant the same crops next year, but ideally with more fertilizer applied in an effort to increase yield.