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The Bulletin

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Welcome to the first 2020 issue of The Bulletin, our quarterly newsletter covering U Bank's innovation and research work.

With this newsletter we not only seek to highlight our own work but also deep-dive into global and local financial sector trends and developments. It is meant to be an exploration of the various sectors and topics that intersect with banking, microfinance, financial inclusion and sustainable development in an effort to encourage dialogue on the key challenges and opportunities; while working on pushing forward the frontier when it comes to ensuring financial access & coverage.

This issue comes in the midst of a global pandemic and extraordinary circumstances that have not only disrupted the business community but also affected the quality of life and mental health of the general public. We've included a special report on the lessons the sector can extract from the Ebola outbreak and some suggestions on how to navigate the current crises. The primary topic that we talk about is another impending global threat – climate change and its impact on agriculture and food security. We hope that this information serves as food for thought and inspires positive action to help mitigate and adapt to climate change.

We welcome thoughts and feedback, as well as suggestions on topics to cover in future issues. Our hope with this newsletter is to build a community of engaged readers interested in sincere discourse about the challenges and opportunities we face as a sector, the disruptions (technological or otherwise) required to serve our customers better and build an inclusive Pakistan. Wishing you all are staying safe and healthy.

Yours sincerely,
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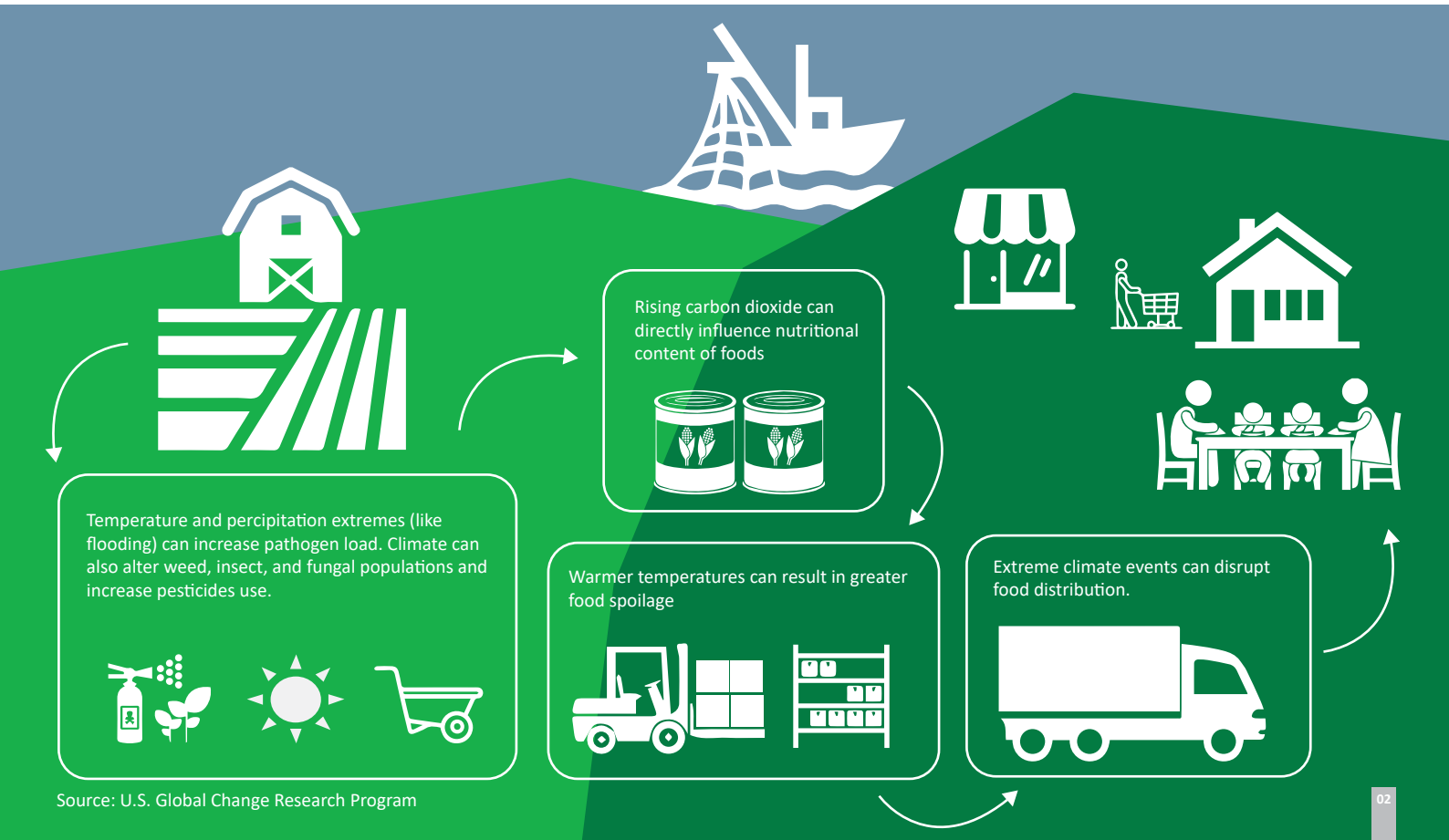
How is climate change impacting the agriculture sector & food security?

Climate Change Context in the Current Scenario

As the world faces catastrophe in the shape of the Covid-19 pandemic, the focus has shifted away from another impending global threat – climate change. While the impact of Covid-19 has been unfolding at a comparatively faster pace, there are stark similarities in process, with how climate change is projected to affect the global population. Perhaps the most prominent commonality in the political rhetoric around both these crises is the initial denial of the problem and the consequential argument regarding the economic costs associated with preventive methods, which in both cases has resulted in slow pacing of taking said actions. A science historian, Naomi Oreskes who has done a multitude of research on the origins of climate disinformation, and summarized this attitude speaking to WIRED magazine: "First, one denies the problem, then one denies its severity, and then one says it is too difficult or expensive to fix, and/or that the proposed solution threatens our freedom". A 2017 Wall Street Journal op-ed argued that the economic damage one might expect from climate change "does not justify policies that cost more than 0.1 percentage point of growth." When put in the context of data that proves that global temperatures and greenhouse gas emissions are constantly rising, climate-related natural calamities are increasing in both frequency and severity. The planet is becoming increasingly water stressed and this global crisis may quite literally translate into an existential threat to the survival of our species and environment. Taking all this into account, the outdated rhetoric against taking concrete and drastic action for climate change mitigation seems absurd at the very least. Perhaps, the slow nature of the climate change crises – we are still decades away from the worst effects of global warming – makes it less urgent, resulting in slower action. However, researchers deliberate that even if we start taking immediate action, e.g. cutting emissions, the problem of climate change will still continue to grow. In short, we are already running behind the clock. The only solution? To shut down emissions entirely.

While this challenge is a global one, its impact will disproportionately affect developing countries, particularly marginalized and rural communities who are most vulnerable. This is especially true since most developing economies depend on sectors that face the brunt of the changes caused by climate change i.e. agriculture, forestry, fishery etc. In countries like these the question becomes less of mitigation (due to the cost & capacity of taking such measures) and more of adapting to climate change and building resilience. The problem in developing countries is circular in nature whereby a majority of livelihoods are dependent on sectors most at risk of climate change. These countries face disproportionate natural calamities such as flooding, extreme drought and storms and at the same time the poor economic and institutional capacity makes effective climate change action much harder. This in turn leads to greater urban migration, which further exacerbates the problem.

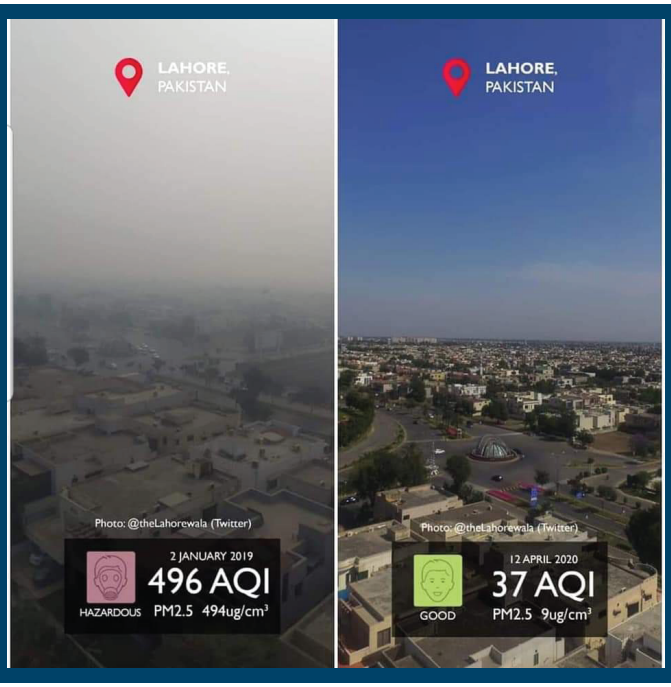


Source: U.S. Global Change Research Program

Taking the example of agriculture, the only way to fight GHG emissions and rising temperatures is to engage in greater agricultural activity but with better practices and climate-resilient inputs. However, the climate change induced migration means that fewer people are actually engaging in agricultural activities, thus making the problem worse. In addition, the greater burden on already overburdened urban centers and the shifting of focus towards more industrial sectors means that the climate change problem only becomes bigger in magnitude. A good case study of this example can be Lahore and its outskirts, where a combination of factors i.e. 1) increased industrial activity; 2) bad agricultural practices (i.e. burning of crops at the end of harvesting); and 3) over-development of the region, resulting in many orchards and cultivatable land being eliminated, have all contributed to a massive smog/air quality problem over the last few years. In November 2019, in what is referred to as "smog season", Lahore ranked second only to Delhi (India) on the worlds most polluted major cities ranking.*

Covid-19 Lockdown's Impact on Air Quality

*Side Note: Interestingly, the partial lockdown being enforced in the country currently due to the Covid-19 pandemic has resulted in a drastic improvement in the air quality due to the shut-down of industrial and corporate activity in addition to limited traffic –both public and private transport. The picture below visually demonstrates this positive impact. It might be time for us to think about policy reforms and efforts to be able to sustain these results once life resumes post-pandemic.



Pakistan's Context – Agriculture, Food Security & Climate Change

According to the Pakistani government and international aid/research institutions roughly 25 million people in the country depend on employment in the agricultural sector as their main income source. The sector also constitutes 25% of the national GDP and absorbs about 42% of the country's labor force (34% of economically active men and 74% of women). Furthermore, it is also responsible for 75% of Pakistan's export revenue. However, despite this agricultural productivity remains low and there are significant gaps in yield especially for sugarcane, rice and wheat crops.

The sixth most populous country in the world, with a population growth rate of approximately 2% per year, Pakistan is ranked fifth on the most vulnerable countries in the world on the Global Climate Risk Index for 2020. The country has been facing frequent periods of severe droughts, followed by devastating flooding. In the aftermath of the 2010 floods, one fifth of the country's land area was submerged, damaging the economy, infrastructure and livelihoods, with 90 million people left food insecure (World Bank). Additionally, every year the Sindh and Balochistan provinces, also face severe heat waves which not only limit agricultural activity but also result in heavy death tolls. According to research cited in National Geographic magazine's April 2020 Earth Day special issue, Pakistan is considered among the most highly water stressed countries in the world and projections show that this problem will double or more from 2020 to 2040. Furthermore, the research states that agriculture accounts for more than two-thirds of groundwater extraction worldwide, with Pakistan amongst the seven countries that account for 74% of global groundwater withdrawal. In addition, agriculture is also responsible for about 41% of all GHG emissions in the country (mostly through livestock production). By 2060, Pakistan's mean temperature is expected to rise by 1.4 degree Celsius to 3.7 degree Celsius, higher than the world average. Overall, the only way to effectively combat agricultures own footprint, especially when it comes to tackling GHG is to work towards reducing tillage, expanding crop rotations, planting cover crops and reintegrating livestock into crop production systems. Investing in these efforts will also help in capturing the excess carbon generated by other industries. However, the problem doesn't just end there - according to the State Bank of Pakistan's State of the Economy report Pakistan's irrigation water flows for Oct-Jan FY19 have been 20 percent lower than the 5-year average.

To summarize, the climate change problem being faced by Pakistan currently is many fold:

1. Even though Pakistan is home to one of the most comprehensive irrigation networks in the world, water resources are still expected to decline over the coming years.
2. Increasing population has resulted in increasing food demand. This combined with the simultaneous losses in agricultural output translates into a food security problem.
3. Climate change induced migration to urban centers adds further stress to the food system and environment.
4. Pakistan's reactionary approach towards combatting climate change which centers around relief efforts rather than preparedness exacerbate our national climate woes even further.

Adding to the problem is the cyclical nature of the economic activity in the sector over the last few years. Pakistan's economy has gone through a series of booms and busts over the last 5 years, and this trend is upheld within the agricultural sector. According to SBP data while Pakistan posted a better performance in the agricultural sector for FY 18, as it grew by 3.9 percent compared to the 2.7 percent in FY 17, in FY 19 the output contracted again showing only marginal growth of 0.8 percent. The output of all major kharif and rabi crops declined in FY 19, with the excep tion of maize. In view of this information the World Bank concluded that historic gains in the food sector have come at the cost of the environment and health and that in future years we will start seeing even greater drops in productivity and yields as a result of a combination of the factors listed above. The need of the hour is to mainstream climate smart agricultural practices by investing in improved seeds, farming technology and techniques, and water infrastructure development to adequately handle these emerging challenges.

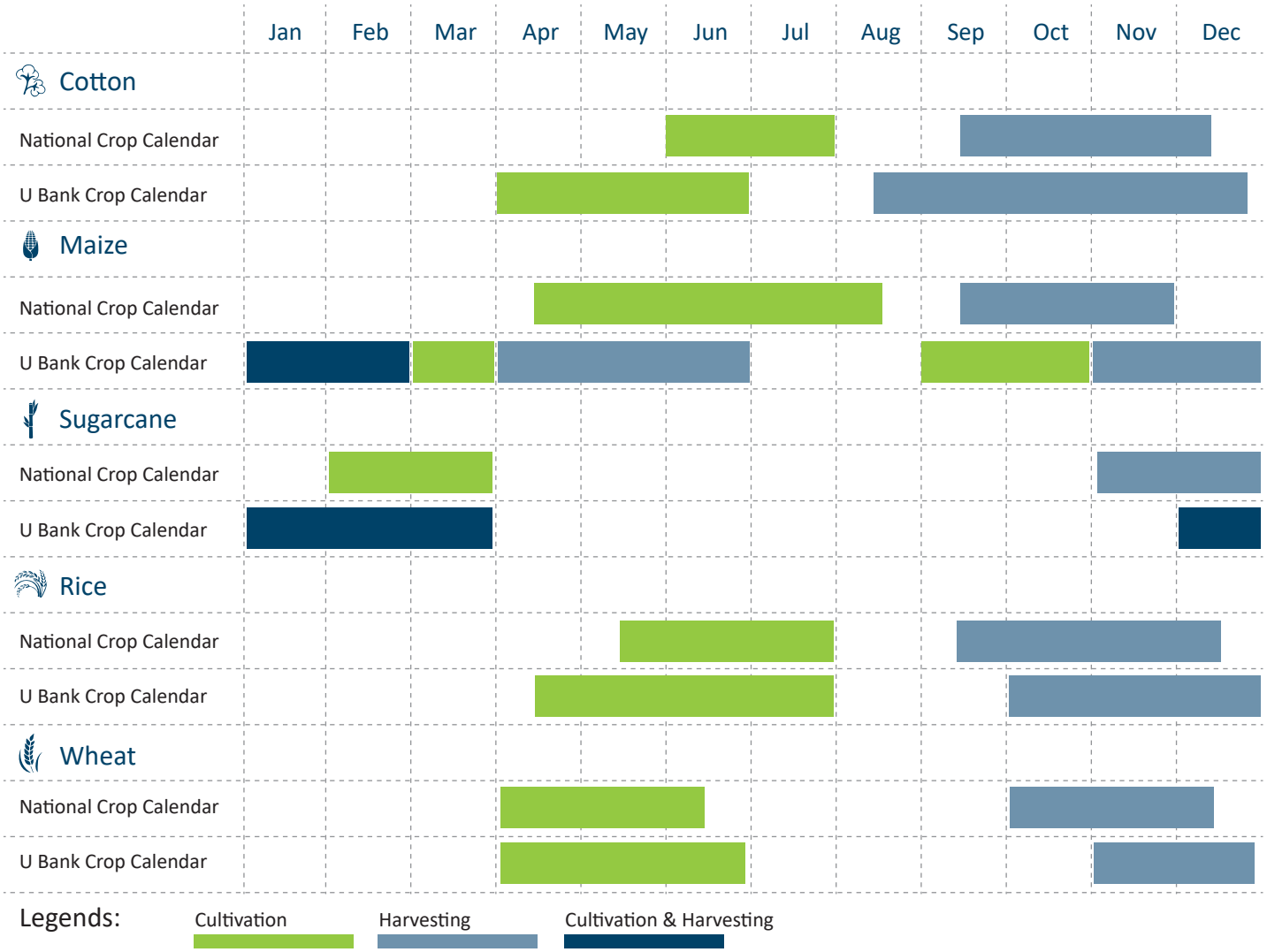
Climate Change Action by the Government

The Pakistani government has been taking positive action over the last few years to actively work on climate change, and a prominent achievement is the dedicated Ministry of Climate Change. Under its banner the government has rolled out the Clean Green Pakistan Movement, which was launched with an annual budget of PKR 802.69 million. Furthermore, the 10 Billion Trees Tsunami, i.e. a project designed to reverse the impact of decades of deforestation, by planting trees over the next 5 years, has seen record participation and success in addition to becoming a globally acclaimed case study for positive climate change action. Moreover since 14th August 2019, the use of plastic bags was also banned in the capital city, Islamabad, indicating the government's continuous resolve to tackle threats pertaining to the environment. One of these threats includes the increase in untreated solid and industrial waste which is adversely affecting underground water tables as they are becoming polluted. Crops in peri-urban areas are often irrigated with this polluted water containing heavy metals, which are potentially absorbed by vegetables and other cash crops infiltrating our food chain. The government has also been trying to actively work on water shortage by engaging in conservation related initiatives. However, anecdotal evidence suggests that such infrastructure developments are proving to be ineffective as a result of poor planning. Journalists Haya Fatima Iqbal and Amber Ajani, travelled across the country last year to find out how climate change is already impacting the lives of our most vulnerable. One example of such engineering and planning blunders that cost millions that they came across was that of Kotri Barrage which has resulted in the complete decay of Keti Bandar. The barrage was built upstream resulting in the blockage of flow of fertile sediment downstream which meant that the crops in that region died. Another example was of the dam built to conserve rainwater in Nagarparkar. However, this dam failed to do its job as it was built in the wrong location. When it rains the water accumulated in the natural rainwater drain is unable to reach the dam to be stored. The seasonal river has also changed course due to this dam and has drastically increased flood risk in the surrounding area.

What role can microfinance institutions and U Bank play?

As a microfinance bank, a bulk of U Bank's customers operate within the agricultural and livestock sector (approximately 60% of our total portfolio). Of the PKR 23 billion of our gross loan portfolio 30% alone can be attributed to purely agricultural activities. Over the last year we've noticed significant impact on this portfolio's performance owing to extreme flooding, droughts followed by heavy rainfall, heavy hailstorms in Sindh and extreme winter temperatures, all of which led to the destruction of crops as well as significant declines in yield. One farmer shared that the extreme cold during last winter heavily stressed his onion production and led to a 25% decline in yield. More anecdotal evidence from areas like Multan and Bhakkar claims that rising temperatures have led to as high as a 50% decline in yields in these areas. Furthermore, changing micro-climate conditions can also lead to changes in the crop cycles. Up until a decade ago, April used to be a time of joy and celebration for the farmers in Punjab due to the harvest of wheat. The crop requires dry and hot weather before it can be completely ready for harvest. This period used to fall in April every year historically. However, heavy rainfall last April resulted in huge amounts of nearly ready to harvest wheat being destroyed. This April has once again seen rainfall that's negatively impacted the wheat crop.

On the basis of this intelligence collected from the ground, the U Bank team engaged in a detailed field-research activity to determine if the crop calendar was indeed shifting as a result of the changing climate. It was extremely vital to identify this shift because not only does this change the way we lend and support our farmer borrowers, but it would also have significant impact on national strategy and climate change related action plans. In the recently concluded activity, the U Bank team has found that there has been about a month's shift in crop cycles across the country as compared to the cycles determined in our national crop calendar.



The way forward to start addressing this problem is for farmers to become more actively engaged in greener production methods. However, while research from the ground shows that people and farmers are instinctively aware of the impact of climate change on their lives and livelihood, they lack the awareness, knowledge and prerequisite skill-set and resources to take positive action. The situation is further complicated by the fact that such initiatives do not lead to any immediate/visible gains in the short-term. In fact, if anything the transition period to more sustainable practices will most likely result in a further decrease in yields at first. This is due to the time required to adapt and learn, gain the required experience and implement more beneficial and regenerative practices according to research done by the World Economic Forum. However, this decrease in productivity only adds to the financial challenges – especially when it comes to farmers in developing country contexts, who are already having a hard time making ends meet, along with competing with developed economies in pricing. Hence, the climate change challenge is near impossible to fight without addressing poverty due to the interconnected and interdependent nature of the two problems.

Some headway has been made towards this end over the recent years. The government has been implementing some pro-poor strategies – such as a focus on the development of smallholder farmers – which has resulted in reducing the national poverty incidence from 64% in 2001 to 29.5% in 2013. However, according to statistics by the World Bank, four in 10 people are still deprived of some of the basic necessities. With the global Covid-19 pandemic that has hit this year, the situation will most likely get worse. While the government needs to renew its commitment towards combatting climate change and begin engaging in cross-sector and public-private pilots across the country to incubate, develop and scale innovative solutions to the problem i.e. focusing on solar energy and renewable energy sources, there is also a need for private sector organizations to take positive action towards mitigating and adapting climate change. Microfinance institutions are well-placed to tackle this problem, not only due to their work being primarily focused towards the poor and vulnerable segments of the population but also because research has shown that access to microfinance has been helping communities build resilience in the face of natural shocks such as droughts, floods etc. This insight was validated first-hand in U Bank's flagship impact measurement report released last year as well. At U Bank we believe that we and the microfinance sector at large can take on a positive role when talking about addressing climate change:

1. Investing in green microfinance, not only by altering internal processes to make them more efficient and less of a burden on the environment but also introducing loan products geared towards technology, inputs, resources (i.e. solar pumps/panels, drought resistant seeds, micro-weather updates etc.) to help improve productivity and ease the climate change related impacts. U Bank launched its Digital Loan Acquisition Application at the beginning of the year, making the loan process completely paper free from application to disbursement . At the same time our team is constantly innovating to develop financing options for innovative and environment friendly solutions.

2. U Bank is now the largest microfinance bank in terms of number of branches, with over 200 branches across 160 rural and urban locations in the country. This geographic spread not only represents an opportunity for us to collect more specific and accurate climate change related intelligence for each region, but also represents an opportunity for our branches to become important hubs for awareness building and conducting quick and effective financial transactions in the aftermath of disasters increasing our communities' disaster preparedness.

3. Microfinance institutions in Pakistan also have the opportunity to take a front-role towards positive climate action by offering a diverse range of products and services (apart from extending credit) to help boost resilience. Some African developing nations have been able to do this effectively by introducing crop insurance products as well as fostering partnerships that help bring products like tractors and renewable energy sources to their borrowers at much more affordable price points or on the principles of shared economy.

The scope of the problem remains massive and the financially underserved and excluded top the list of those most vulnerable to climate change. By virtue of working closely with this exact population, U Bank remains dedicated to keeping innovation and human centered design at the heart of its efforts while working towards building greater resilience and helping in mitigation and adaptation efforts.

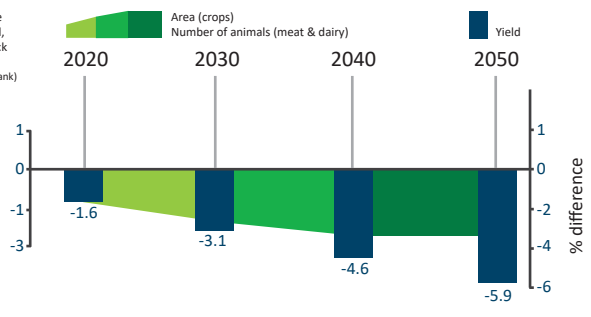
While the Covid-19 pandemic has been an unfortunate occurrence that is leaving much devastation in its wake, it can also serve as a warning and an opportunity for us to ramp up our efforts to avoid similarly abysmal results when it comes to climate change.

Pakistan's 5 Major Crops - Factsheet:

Wheat

	FY 18	FY 19
Production	25.5 million ton 4.4 percent from FY 17	24.3 million ton 4.9 percent from FY 18
Primary reason for shortfall	1 - Delays in sugarcane harvest; resulting in delayed sowing 2 - Scanty rainfall & low water availability	1 - heavy rain during harvest season 2 - Delayed cane crushing 3 - Rust disease due to ultimate rains

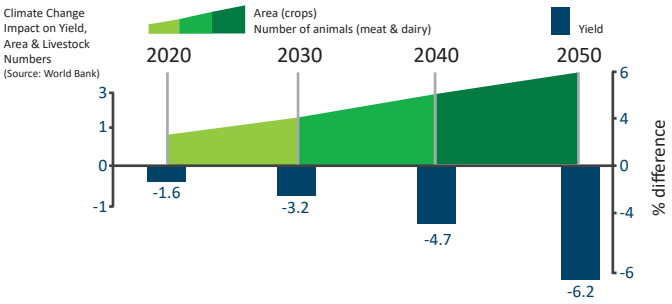
Climate Change Impact on Yield, Area & Livestock Numbers
(Source: World Bank)



Sugarcane

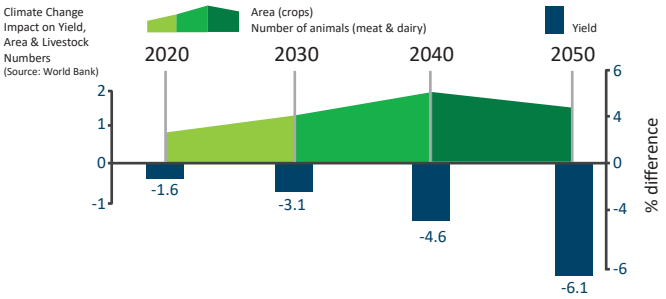
	FY 18	FY 19
Production	83.3 million ton 12.1 percent from FY 17	67.2 million ton 19.3 percent from FY 18
Primary reason for increase or shortfall	1 - Shift in area under cultivation due to higher profitability	1 - Fall in land under cultivation due to delayed payments 2 - Low yield due to inadequate inputs

Climate Change Impact on Yield, Area & Livestock Numbers
(Source: World Bank)



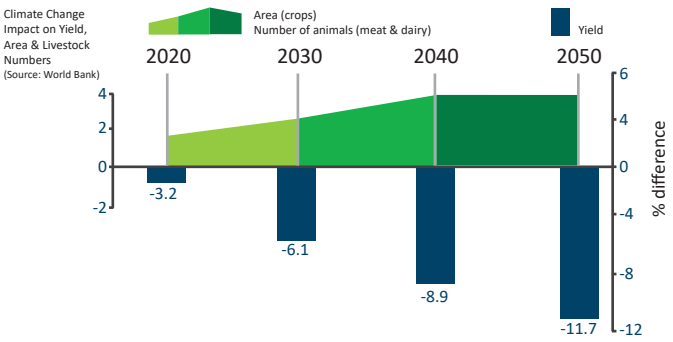
Cotton

	FY 18	FY 19
Production	11.9 million ton 11.2 percent from FY 17	9.9 million ton 16.8 percent from FY 18
Primary reason for increase or shortfall	1 - Increase in area under cultivation 2 - Remain shielded from cotton imports	1 - Contraction in land under cultivation due to water shortage & low prices.



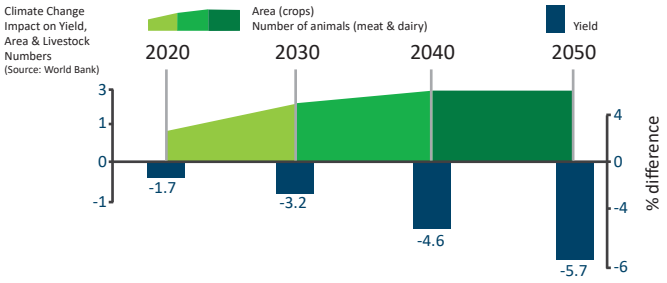
Maize

	FY 18	FY 19
Production	5.7 million ton 7.1 percent from FY 17	6.3 million ton 6.6 percent from FY 18
Primary reason for increase or shortfall	1 - Loss of area under cultivation to competing crops	1 - Recovery of land under cultivation 2 - Use of hybrid seed



Rice

	FY 18	FY 19
Production	7.5 million ton 8.8 percent from FY 17	7.2 million ton 3.3 percent from FY 18
Primary reason for increase or shortfall	1 - Attractive crop due to exports 2 - Increase in area under cultivation	1 - Drop in area under cultivation 2 - Water Shortage



Special Report:
Covid-19 and the financial service provision ecosystem

Can we extract some useful lessons from the Ebola outbreak?

Duaa Amina Noor
Assistant Manager
Research & Innovation

The recent outbreak of the Covid-19 or coronavirus pandemic, has shaped into a dangerous reality, particularly for low-income households and small businesses, which are disproportionately absorbing its shocks. As detailed in a recent report, by the Center for Financial Inclusion (CFI), these shocks are likely to result in lower income, depletion of savings, loss of livelihoods, and negative coping strategies e.g. lack of food intake and poor nutrition. In the midst of this chaos, financial service providers (FSPs), particularly microfinance providers (MFPs) come into the limelight, as their role towards alleviating poverty and promoting financial inclusion becomes even more magnified.

However, MFPs are not immune in the face of this crisis, and in fact have to combat monumental challenges, in order to fulfill their purpose. Taking the case of the 2014 Ebola outbreak in West Africa, and its effects on the microfinance ecosystem, it is easy to paint a picture of what the industry should be prepared for, as the current global situation escalates. A study by Cordaid International outlines that in Sierra Leone i.e. one of the worst affected regions, MFPs decreased loan disbursement by 40%, and their portfolio at risk doubled during the crisis. A recent report by The Economic Times, studying the impact of MFPs in India, after the Covid-19 outbreak confirms that these patterns

are reoccurring, as providers have begun to scale down microcredit availability and are already suffering non-repayment from borrowers, along with liquidity shortfalls. Even more, firms are also susceptible to staffing shortfalls, which will impact their ability to effectively respond to client needs. Overall, the CFI projects that Covid-19 will cause an even greater loss of lives than the Ebola outbreak, which is why all FSPs must urgently come together in these extraordinary circumstances. Moreover, while the impact of Ebola was geographically concentrated in West Africa, Covid-19 has been classified as a global pandemic, by the World Health Organization (WHO), which begs for cooperation and concern at an even deeper level.

Fortunately, in these challenging times, we can collectively learn from past experience i.e. lessons of the Ebola crisis, particularly, studying the case of Sierra Leone, which stands out due to its swift and strategic recovery from the crisis. As explained by Steven Gaojia, the coordinator of Ebola response - government of Sierra Leone, there are three key factors that can accelerate financial recovery and response from such outbreaks. The first key factor is delivering money to health care workers, and vulnerable households, and executing this as swiftly as possible. If liquidity is not maintained, response workers vital to the health of people, economy and society will not be able to maintain their services. Additionally, daily wage workers in the informal economy, who have no other means of survival will suffer fast and hard. MFPs can show innovation and offer products such as emergency and recovery loans (VisionFund), in order to help absorb financial shocks. It is encouraging to see countries such as Columbia, Peru, Pakistan and Bangladesh and the Philippines have already taken steps in the right direction by creating social protection programs and funds to cater to vulnerable populations. In addition to this, the CFI makes an important point that till balance is restored, disbursements should not be countered with strict expectations of present and future loan repayments, so that lower income households have access to more income. In fact, expected payments should be rescheduled and reprioritized, once normal circumstances resume. Stemming from this, the State Bank of Pakistan has taken a step in the right direction by recently waiving loan repayments for households and businesses, till 2021, which will make a huge difference as it will lead to greater disposable income.

The second key point, which will enable the first i.e. pushing money to the people who need it the most, is that the digital payment ecosystem remains functioning. The Ebola crisis has taught us the importance of digital transfers and branchless banking services, because, as reported by CFI, successful digitization of payments to health care workers, was the saving factor that maintained public health infrastructure in the affected communities. Overall, throughout the crisis, digital wallets helped the government, taxpayers, development partners and response workers save a total of $10 million. However, there were certain important factors due to which the digital payment ecosystem was able to flourish e.g. support from the government i.e. relaxed regulations which allowed expansion of the current ecosystem into one that served more than 30,000 frontline workers. Additionally, in Sierra Leone, the system was able to work, as 90% of health care and response workers had access to mobile phones, while 95% had network coverage, whereas such infrastructure might not be available in other crisis struck regions.

The third key point is that communication and cooperation between all players in the finance ecosystem and beyond, remains steady and consistent. For example, in Sierra Leone, a 'situation room' for problem solving and grievance addressing of digital payments was developed. This involved relevant players i.e. government experts, private sector officials, policy directors, and district level rural government officers coming together to understand, monitor and control the situation. An interactive process was developed in which digital payment platforms were running smoothly and consistently checked for fraudulent activity, for protection and security of customers. Additionally, during the crisis, private sector digital payment providers stepped up and displayed proactive and responsible behavior, by working with the government to create options and products that would enable movement away from cash. For instance, in order to service rural women workers that made up 53% of overall response workers, merchants were trained on how to effectively introduce mobile wallets to them. Another potential avenue for cooperation, can be donors and humanitarian organizations, increasing grants to MFIs, in order to accelerate the positive social impact that lending can create.

Moreover, apart from functioning during the crisis, FSPs, particularly MFPs can play a crucial role in restoring balance once the situation normalizes. Institutions offering micro credit, micro savings and micro insurance products can equip the population with tools to become resilient. The CFI reports that low-income households with access to a portfolio of these products outperform those that do not, in metrics of revenue generation, consumption, health and well-being. It is interesting to note alternate viewpoints that suggest that 'Covid-19 is no threat to the microfinance industry', with players in the banking sector citing the virus as more of an 'urban problem' and 'temporary disruptions', after which business as usual will resume. However, in these unforeseen circumstances, we must not take businesses operating as usual, and move beyond the limited vision of banks prioritizing basic lending services and repayment collection, towards envisioning provision of a portfolio of products that aid survival during the pandemic, and enable swift recovery after.