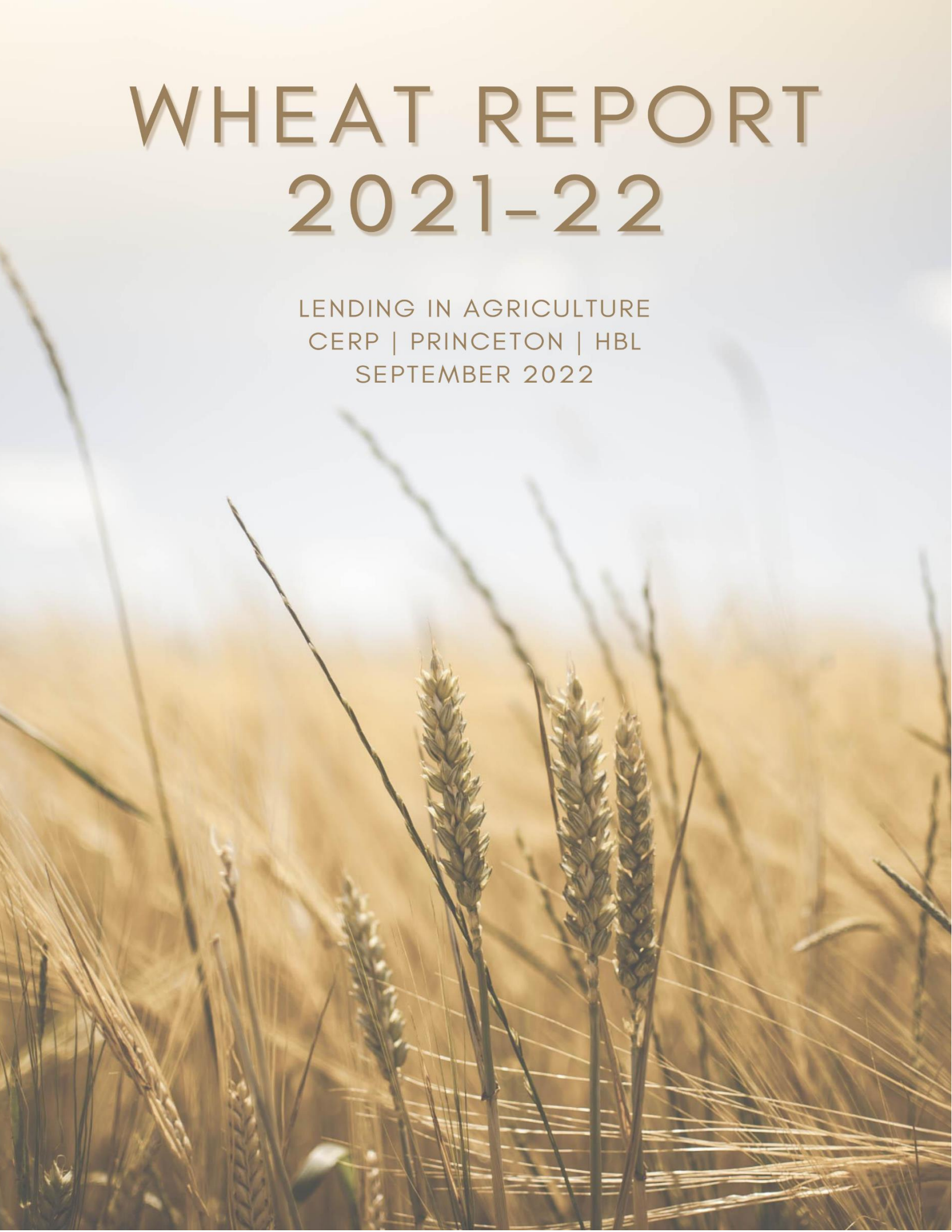
WHEAT REPORT 2021-22

LENDING IN AGRICULTURE
CERP | PRINCETON | HBL
SEPTEMBER 2022



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WHEAT REPORT 2021-22

Lending in Agriculture Project

September 2022

CERP | Centre for Economic Research in Pakistan
HBL
PRINCETON UNIVERSITY

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EXECUTIVE SUMMARY

The banking sector in Pakistan remains disconnected from servicing agriculture and related industries despite the latter's outsized role in the national economy: holistically, agriculture and allied services make up 59% of the GDP.[1] Instead, the formal financial sector is heavily geared toward the large-scale manufacturing sector (LSM). This historical tilt towards LSM is reflected in the State Bank of Pakistan's Access to Finance Survey, which shows that 53% of the adult population is financially excluded while another 24% rely on informal financial intermediaries.[2] Meanwhile, farmer woes continue to exacerbate. Historical obstacles like restricted access to credit and predatory lending persist while global supply chain bottlenecks and national macro-financial volatility have created new roadblocks. Moreover, farmers are wading into uncharted waters - figuratively and literally - as climate change materially impacts growing conditions.

In the face of such a challenging landscape, HBL launched an innovative lending product coupling its financial prowess with leading-edge agro-expertise in collaboration with a research team led by Professor Atif Mian of Princeton University to ensure scientifically rigorous evaluation. As in previous crop cycles, farmers received advances in the form of necessary crop inputs and farm mechanization services at the start of the wheat season in October 2021. The project continues to grow and mature. For this crop cycle, HBL contracted 104 farmers and 5800 acres,[3] and, more importantly, entered the wheat market, which historically has seen minimal private sector involvement due to the government's dominant role in wheat procurement and price setting.

The research team, led by Professor Mian, conducted extensive surveys of the contracted farmers to evaluate the project's efficacy. The results from these surveys are summarized below. For comparison, we included Gujranwala's regional averages for these statistics from the Directorate of Crop Reporting Services (CRS), Department of Agriculture, Punjab.

- **Yield** Average yield for HBL-contracted farmers was 34.4 "maunds" per acre (+14%) as opposed to 30.1 maunds per acre for the regional benchmark.
- **Pricing** Since the government sets a minimum support price - PKR 2,200 per maund this year - all farmers across the country received the same price.
- **Revenue** The higher yield translated into higher revenue for HBL-contracted farmers: PKR 75,600 per acre for HBL farmers (+14%) versus PKR 66,200 per acre for the regional benchmark.
- **Cost** The average cost per acre for HBL-contracted farmers was PKR 31,000 (+13%) and PKR 27,400 for the average farmer in the region.
- **Profit** HBL-contracted farmers' bottom line was PKR 44,600 per acre, a 15% increase relative to the regional benchmark of PKR 38,800 per acre.

[1] Pakistan Economic Survey 2020-21
[2] Financial Inclusion Survey, State Bank of Pakistan
[3] Our survey sample consisted of 70 farmers

- **Minimum Support Price** Wheat is a unique crop in that the government sets the minimum support price and procures it directly from the farmer. As a result, the bank's portfolio faces a higher credit risk for wheat since it is the residual claimant, unlike in other crops like maize and rice.
- **Client Satisfaction** HBL-contracted farmers rated the project's agronomy advisory service 9.5 (out of 10) on average, indicating high satisfaction with the agronomists' expertise and service delivery.
- **Remote Sensing and Low Performers** Remote sensing effectively identified risks to crop health, protected against farmer non-compliance and improved the allocative efficiency of HBL's agronomy team. Agronomic advisory services targeted toward low performing plots improved these plots' productivity, causing low performers to catch up with high performer plots.
- **Climate Change** Daily temperatures soared past historical averages during the crop cycle. All farmers reported that the heatwaves had affected their crops to varying degrees. Thirteen percent said their crop was significantly affected, and their yields were 16% lower than other HBL-contracted farmers on average.

If you have any questions or queries regarding this report's methodology, findings, or other details, do not hesitate to contact us at khawaja.hussain@cerp.org.pk or pallavi@princeton.edu.

1. PROFITABILITY

This section compares the performance of HBL-contracted plots to regional averages on several critical dimensions. We combined data collected as part of the baseline and endline surveys by the Princeton-CERP team with data gathered by the HBL team. We specifically focused on the following metrics:

- Yield per acre
- Prices and revenue per acre
- Cost and profit per acre

The basis of these reported figures was three primary sources: (i) Input cost data from HBL's Crop Plans; (ii) Farmer-reported data for yield and cost as reported in the endline survey; and (iii) government data for the wheat support price.

Our analysis used a combination of HBL's internal data and farmer-reported data. As the government procures wheat at a Minimum Support Price (MSP), we used farmer-reported data for yield and price.[4] To verify the credibility of our data, we cross-referenced farmer-reported yield and price data with that provided by HBL; the difference in the yield data was less than 5%, while there was no discrepancy in the price data due to the government's MSP. For cost figures, we used the bank's input cost data. In case a farmer had independently procured inputs to use on his HBL-contracted land, we collected this additional data through our surveys and included it in our input cost calculations. Moreover, to acquire a complete picture of the expenses incurred, we included farmer-reported data on pre-harvest (including land preparation, sowing etc.) and harvest (including storing, selling, transportation etc.) costs. These expenses were not included in HBL's Crop Plans.

To develop a regional benchmark against which we could compare the performance of HBL-contracted farmers, we constructed estimates of farm performance for an average wheat farmer in the Gujranwala region. We sourced yield and cost estimates from the Directorate of Crop Reporting Service (CRS), Agriculture Department Punjab. Yield data was sourced from CRS's annual crop estimates.[5] Cost per acre data points were taken from CRS's "cost of production" estimates for 2021-22.[6] Cost per acre data included inputs required per acre, labor, and machinery required during sowing or harvesting, land preparation, irrigation, and transportation. Naturally, the wheat support price was selected as the regional benchmark for pricing. By constructing robust regional benchmark figures, we could accurately compare the performance of HBL-contracted farmers to average wheat farmers in the region.

[4] We verified that our farmer-reported price was the same as the MSP

[5] Wheat annual crop estimates 2021-22

[6] Wheat "cost of production" estimates 2021-22

1.1 YIELD

HBL-contracted farmers reported an almost 14% higher yield relative to non-contracted farmers in the region. Figure 1(a) shows that HBL-contracted farmers reported an average yield of 34.4 maunds per acre, compared to 30.1 maunds per acre for the regional benchmark. This increase is likely attributable to high-quality inputs facilitated by the bank along with important advisory services provided by the bank's agronomists.

1.2 PRICES & REVENUE

Price **Since wheat is procured by the government at a pre-mandated price (i.e., the MSP), the price was identical for wheat farmers, regardless of whether they were contracted with HBL or not.** Both categories of farmers received a price of PKR 2,200 as seen in Figure 1(b). The support price system has considerable implications for wheat production, the bank's lending risk, and even for the agriculture sector overall; these implications are discussed in Text Box 1.

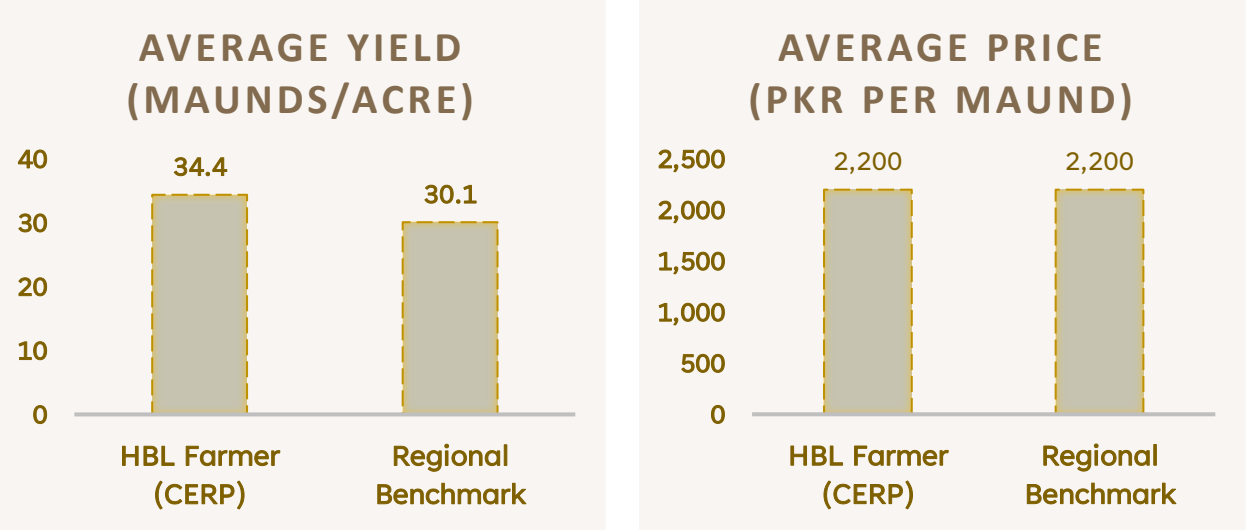


Figure 1 (a & b): Average Yield & Price

EFFECTS OF THE WHEAT SUPPORT PRICE

Wheat is unique from other crops in Pakistan because the government regulates its procurement from farmers. Before the growing season each year, the minimum procurement price of wheat (i.e., MSP) is officially set, establishing a price floor. For example, in the current year, theoretically, a farmer must be paid at least PKR 2,200 per maund for his/her wheat.

The MSP is set based on the excess and shortage of wheat supply in the country, along with the crop's cost of production.[7] The government uses the MSP to incentivize farmers to produce more wheat and ensure its steady supply. By providing a price floor, the government seeks to protect farmers against variability in market prices.

However, this policy leads to unintended consequences. It distorts price signals, causing an excess or shortage of wheat in the country. Since the price is not determined by market forces of demand and supply, the market may not necessarily clear. If a price floor is set higher than the market clearing price, there is an excess in the market as supply increases, but buyer demand does not match that increase. Conversely, if a price floor is set below the market clearing price, there is a shortage in the market as demand exists (at a higher level) but there is not enough supply to meet that demand.

It is virtually impossible for the government to establish the exact market-clearing price ex-ante. Therefore, as with other crops, it should allow market forces to dictate the price of wheat. Currently, because the government sets a price floor and provides a form of insurance to farmers, there is an added incentive to grow wheat. However, if the price floor is removed, farmers will properly analyze their cropping decisions in light of the wheat market, rather than grow wheat because they are being subsidized to do so.

Moreover, since the government directly procures wheat from farmers, there is little room for a directly contracted bulk buyer like in other crops (e.g., maize and rice). Conceptually, the flow of funds upon harvest is reversed relative to maize and the bank is the residual claimant which may increase the credit risk faced by HBL. This uptick in credit risk, especially with climate change exacerbating output volatility, should be noted by the bank when considering the risk profile of its portfolio.

Text Box 1: Wheat Support Price

[7] Abdul Jalil & Fahd Zulfiqar & Muhammad Aqeel Anwar & Nasir Iqbal & Saud Ahmed Khan, "Wheat Support Price: A Note For Policy Makers," *PIDE Knowledge Brief 2020:18*, Pakistan Institute of Development Economics; M.A. Shahzad & A. Razzaq & P. Qing. "On the Wheat Price Support Policy in Pakistan". *Journal of Economic Impact*, vol. 1, no. 3, Sept. 2019, pp. 80-86.

Revenue **HBL-contracted farmers saw an increase of around 14% in their revenue compared to the regional benchmark, driven entirely by superior yields.** As the price was constant for all farmers, higher revenues can be directly attributed to higher yields. Consequently, the average revenue per acre for an HBL-contracted farmer was PKR 75,600 per acre, compared to PKR 66,200 per acre for the regional benchmark, as shown in Figure 2(a).

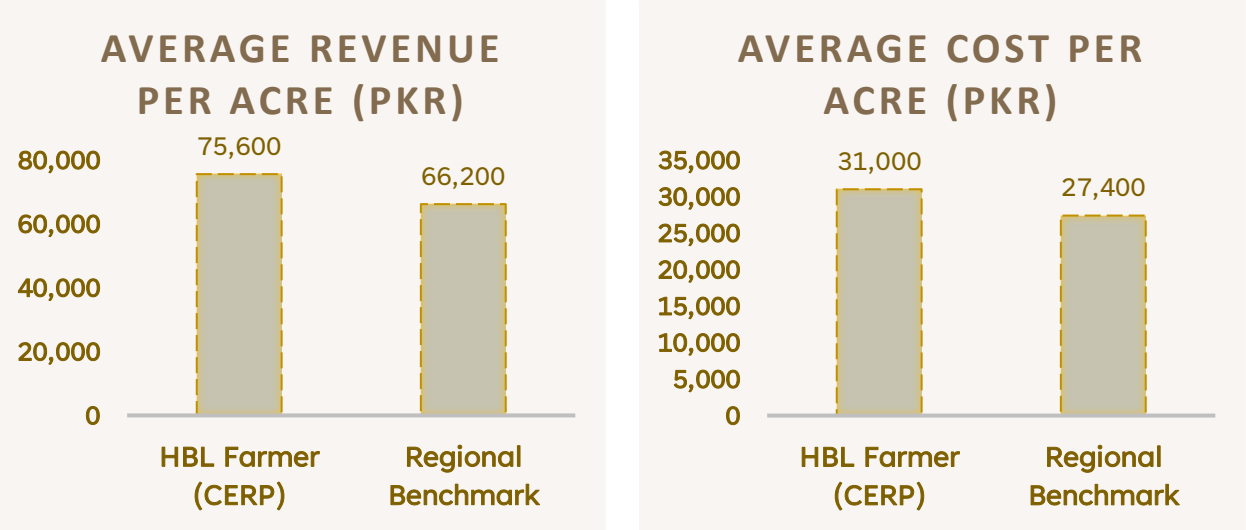


Figure 2 (a & b): Average Revenue & Cost Per Acre

1.3 COST

Costs incurred by HBL-contracted farmers were, on average, around 13% higher than the regional average, reflecting higher-quality input usage by HBL-contracted farmers. The average cost incurred by HBL-contracted farmers was PKR 31,000 per acre compared to PKR 27,400 per acre for the regional benchmark, as displayed in Figure 2(b). While an increase in cost is not desirable, it is primarily a result of the bank using higher-quality inputs that were more expensive than the lower-quality products used by an average farmer in the region. However, this increase in cost was offset by an even greater increase in yield and revenue for HBL-contracted farmers, resulting in a net increase in profits as discussed below.

1.4 PROFIT

HBL-contracted farmers' profits were, on average, 15% higher relative to the region's average farmer. The average profit earned by HBL-contracted farmers was PKR 44,600 compared to PKR 38,800 per acre for regional benchmarks. Hence, HBL-contracted farmers earned PKR 5,800 per acre more than the average farmer in the region, as seen in Figure 3. As mentioned previously, even though the average cost per acre for HBL-contracted farmers was slightly higher, their considerably higher yields led to even higher revenues and, hence, higher profits compared to average farmers in the region.

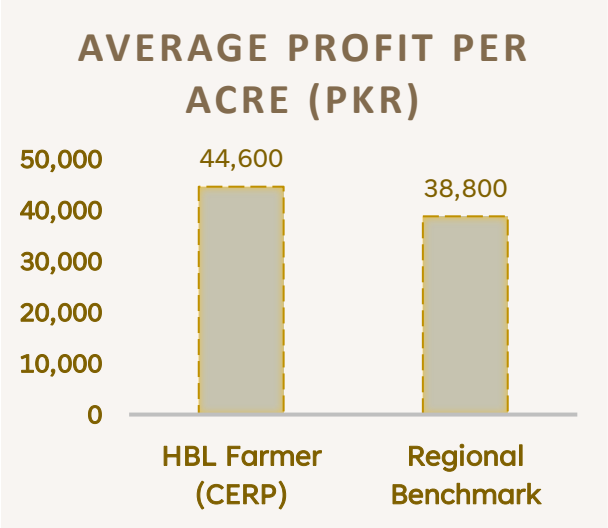


Figure 3: Average Profit Per Acre

VARIABLE	HBL FARMERS	REGIONAL BENCHMARK	CHANGE (%)
Yield (Maunds Per Acre)	34.4	30.1	14
Price (PKR Per Maund)	2,200	2,200	0
Revenue Per Acre (PKR)	75,600	66,200	14
Cost Per Acre (PKR)	31,000	27,400	13
Profit Per Acre (PKR)	44,600	38,800	15

Table 1: Wheat 2021-22 Profit Table

Note: Financial metrics presented are averages across all farmers for which the relevant statistic is available. Thus, revenues, costs, and profits may not be arithmetically consistent.

2. LOW PERFORMER ANALYSIS

The Princeton-CERP research team's remote-sensing initiative supplements field visits and farm advisory provided by HBL's agronomy team to all contracted farmers. In this way, remote sensing also serves as a resource allocation tool; it directs where HBL's agronomy team should focus its resources, especially as the project scales up in terms of farmers and areas.

Remotely monitoring crops leads to the timely detection of threats and risks that can reduce crop yield. Using satellite data to monitor wheat cultivation allowed the research team to identify a diverse set of issues across multiple plots. The Princeton-CERP team developed the computational infrastructure for analyzing satellite data in-house. Geospatial data was sourced from the Sentinel-2 satellite program. Furthermore, the Normalized Difference Vegetation Index (NDVI), considered highly suitable for wheat, was used to identify "low performer" plots. Four factors that could pose an adverse risk to crop health were tracked: pest attacks, water stress, fertilizer deficiency, and weather impact.

The low performer process involved identifying lagging plots through satellite data and subsequently visiting those plots to provide advisory services. Using NDVI, the Princeton-CERP team's algorithm pinpointed low-performing wheat plots that required attention. HBL's agronomy team then visited those plots, investigating the reasons for their low performance and providing targeted agronomy advisory to address any issues. This exercise aimed to enhance crop health and reduce the risk of lower yield, benefiting both the farmer and HBL.

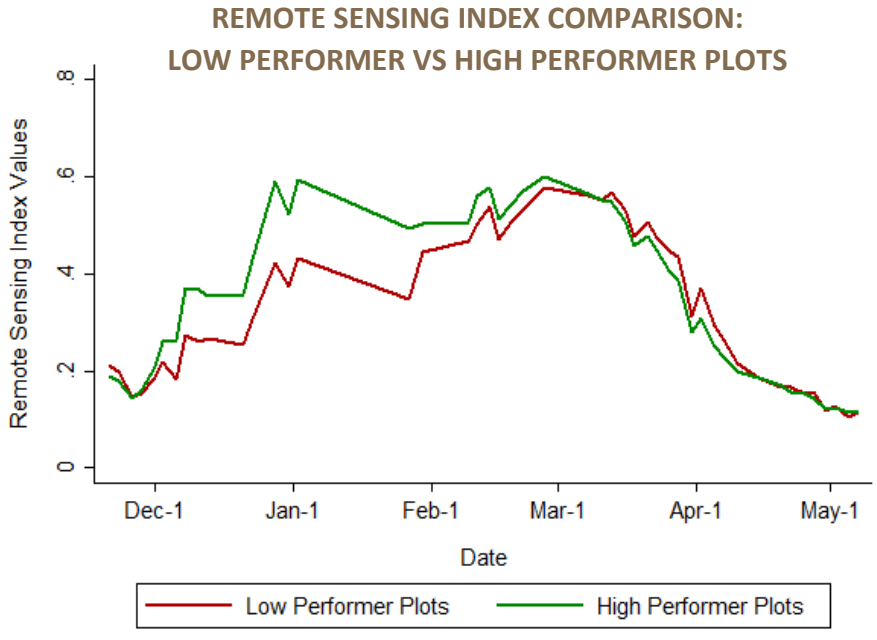


Figure 4: Low Performer vs High Performer Plots

The wheat crop cycle provides promising evidence that the low performer process – from remote detection to agronomist visits – improves crop health and productivity. Analyzing plot NDVI values over the course of the crop cycle can offer valuable insights regarding a plot's productivity over time. Specifically, comparing NDVI values of the low performer plots and the other plots provided interesting findings, as shown in Figure 4. Firstly, NDVI values of low performer plots were considerably lower than those of other plots for the initial months of the crop cycle. This period coincided with our detection period, as plots with low NDVI values were classified as low performers. Secondly, and most interestingly, towards the second half of the crop cycle, NDVI values of the low performer plots began to converge with, and then even overtake, those of the other plots. It is worth noting that this pattern occurred after HBL's agronomy team visited the low performer plots and provided advisory to them. The plot in Figure 5 further substantiates these findings. The figure plots average NDVI values for low and high-performing plots within a particular (narrow) set of sowing dates. This graph also includes the identification period (i.e., the period during which low performing plots were identified) and harvest period to illustrate the direct effect of the low-performer process. As seen in the graph, not too long after the identification period, the otherwise lagging NDVI values began to converge and then rise above those of the other plots. This trend signifies an improvement in yield and crop health *during the crop cycle*, achieved through real-time identification using satellite data and swift agronomy intervention in the field.

Remote monitoring is especially adept at identifying localized issues within plots that may be difficult to detect through manual visits, especially when large plots are involved. For example, during the wheat crop cycle, satellite data uncovered multiple issues, such as patches of water stress and germination concerns, that had only affected a portion of the plot (please refer to Figure 11 in

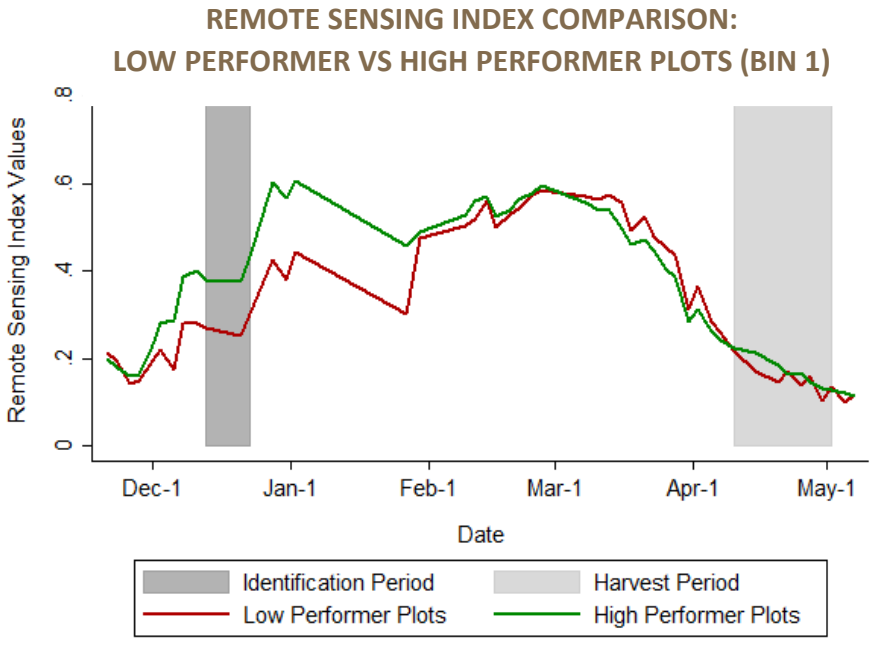


Figure 5: Low Performer vs High Performer Plots (Bin 1)

the Appendix). Failure to detect and correct such localized challenges could have substantially affected the overall plot yield and crop health.

Remote sensing also offers an effective tool to ensure farmer compliance, reduce information asymmetries, and protect against credit or default risks in the lending market. Our low performer analysis was well-equipped to flag potential non-compliance issues, such as side-selling and early harvesting, which can pose a risk to HBL's investment in these farms. Because satellite data reveals many types of issues, this procedure ensured that any farmer practice would not go unnoticed, and any unusual farm operation would not remain undetected. For instance, when one low performer plot was visited, HBL's agronomy team found that rice crop waste had been placed in a portion of the wheat plot (refer to Figure 12 in the Appendix). Naturally, this caused the plot to have a lower NDVI value and to be identified as a low performer. Therefore, remote sensing is not only adept at identifying plots with lower productivity, but it can also detect and relay critical information about other activity on the plot that can potentially harm HBL's investment. In short, even in cases where conventional monitoring by the bank might fail to detect non-compliance, the remote monitoring process does so effectively.

3. FARMER FEEDBACK

As part of our endline survey, we collected farmer feedback on various aspects of the project to better understand their thoughts and evaluations. Our focus was specifically on:

- Seed
- Fertilizer and plant protection
- Machinery
- Experience and suggestions

HBL-contracted farmers gave an average rating of 9.5 out of 10 to agronomy advisory and other farming information provided through the project, the highest rating across all crop cycles in the Gujranwala region so far.[8] This rating is a marked increase from the previous crop cycle's rating of 8.5. This improvement signals a high level of satisfaction with the bank's services and farmers' confidence in the project. Furthermore, 74% of the farmers also gave the project a perfect rating of 10.

Seed When asked whether they faced any issues with the provided seeds, all surveyed farmers responded in the negative. This is for the first time during the project that all farmers showed their complete satisfaction with the seeds provided by HBL's service providers.

Fertilizer and plant protection Ninety-seven percent of HBL-contracted farmers reported that they had no issues with the provided fertilizer. The remaining 3% who faced issues complained about late delivery. This is a recurring theme that has also been highlighted in previous reports. However, in this crop cycle, HBL has done a remarkable job of addressing this issue as very few farmers have complained about it. Moreover, all farmers said that there were no issues with the plant protection inputs either.

Exhibit 1: Farmer Endline Surveys

[8] We have only included crop cycles with a sample size of over 50 farmers

Machinery **When asked about the machinery facilitated by HBL's service providers, farmers shared that they had not faced any issues regarding machinery in this crop cycle.** Again, this is the first time during the project that farmers highlighted zero issues regarding machinery. Bottlenecks in providing machinery on time had been a persistent challenge but HBL has seemingly resolved this long-standing obstacle now.

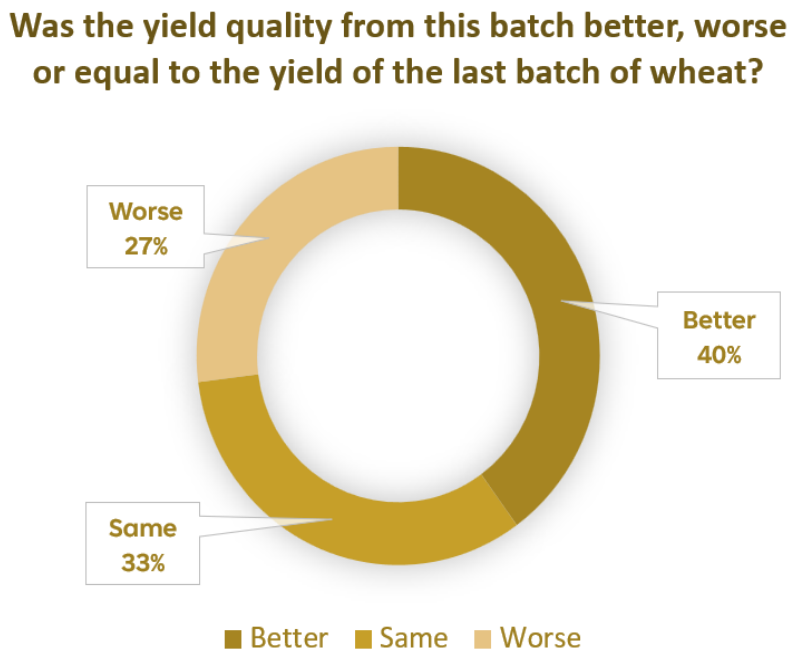


Figure 6: Yield Quality

Experience and suggestions **The overall response to the project was largely positive.** When asked about comparing this crop cycle's yield with that of last year's crop cycle, 40% of HBL-contracted farmers reported having a better yield this time, 33% said that their yield was the same as last year's, and 27% said it was worse (refer to Figure 6). The pessimism shown by farmers in response to this question is likely due to heatwaves felt across the country rather than due to an issue on HBL's end (refer to Text Box 2).

EFFECTS OF CLIMATE CHANGE

The province of Punjab faced a severe heatwave in the early part of the summer, with temperatures soaring higher than historical averages from March to May. Since the wheat growing cycle ends in April or May, the crop was susceptible to the unusual rise in temperature.

In order to analyze the effect of the heatwave on the crop, we asked farmers if they felt that the early-summer heatwave had affected their wheat crop or not. As shown in Figure 7, 56% of farmers said that the heatwave had somewhat affected their crop, whereas 31% of farmers said it had moderately affected their crop. Lastly, 13% of farmers believed that the heatwave had majorly affected their crop. Interestingly, there were no farmers who felt that their crop was immune from the heatwave.

Farmers who believed their crop was either somewhat affected or moderately affected by the heatwave had only a slight difference (less than 2%) in yield. However, farmers who felt that their crop had been majorly affected by the heatwave had a much lower yield compared to the other farmers. As shown in Figure 8, those farmers had an average yield of 29.9 maunds per acre, compared to 34.7 maunds per acre for the rest; a difference of around 16%.

It is evident that farmers' perception of the impact lines up concretely with actual loss in productivity. While the project can incorporate adaptation and mitigation technologies in the future, the fraction of farmers affected by the heatwave is material enough to systematically consider climate risk when making portfolio decisions. To this end, investments in assessing the value at risk due to physical climate risk in these regions can be an important first step in the right direction.

Text Box 2: Climate Change

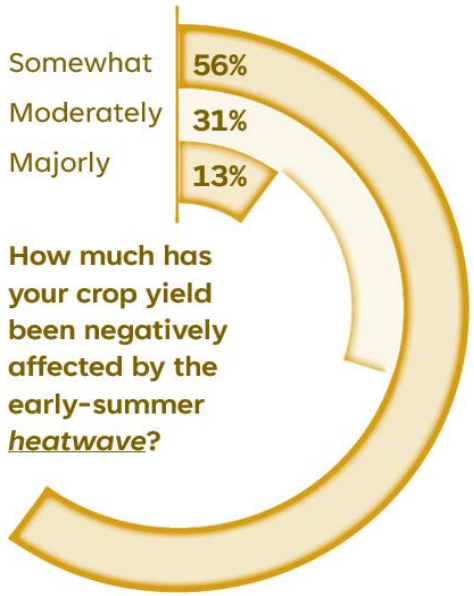


Figure 7: Heatwave Effect – Farmer Perception of Yield Impact

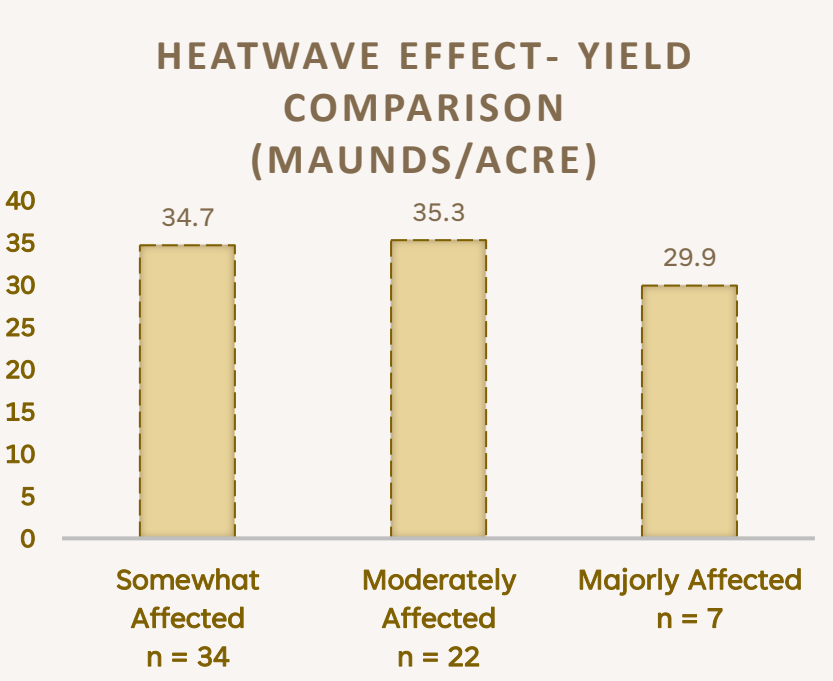


Figure 8: Heatwave Effect – Actual Yield Impact

Almost all farmers (99%) reported that their cost of selling (costs incurred from after harvesting till selling of crop, e.g., transportation to market, storage, and packaging) had increased compared to the last batch of wheat. This can be attributed to inflationary pressures in Pakistan's macroeconomy. Moreover, the devaluation of the rupee along with an extraordinary increase in fuel prices raised harvest/post-harvest costs, especially for farmers who engaged in mechanized harvesting. However, when asked if the ease or convenience of selling increased, decreased or remained equal compared to the last batch of wheat, 84% of farmers responded that it remained equal, 13% said it had increased, and the remaining 3% said that it had decreased. Recall that the wheat procurement process is regulated by the government. Moreover, we asked farmers if their revenue had increased, decreased or remained the same compared to the previous year's wheat crop. Thirteen percent of farmers said that their revenue had increased from the previous year's wheat crop, 50% said it had decreased, while the remaining 37% reported no change.

Figure 9: Debit Card Usage

As far as the usage of financial services by farmers is concerned, HBL's project has made some limited inroads in this crop cycle. When asked how often they use the bank's debit card, 48% of farmers said never, 43% of farmers said rarely, whereas the remaining 9% said they use it monthly (refer to Figure 9). These numbers are encouraging when compared with the responses of these same farmers from the rice crop cycle, over four months ago. Back then, the percentage of farmers who reported never using debit cards was 64%, dropping to 48% in this crop cycle. This shows that with due time farmers have understood the utility of having such a tool at their disposal. This percentage can be further reduced by increasing farmers' financial awareness and electronic points of sale terminals.

Ninety-three percent of farmers gave a perfect rating of 10 out of 10 when asked about the lending terms provided by the bank (i.e., repayment period, monthly payments, and costs), as referenced in Figure 10. Three percent of farmers gave a rating of nine and eight each, while the remaining 1% gave a rating of four. Farmers who showed less satisfaction with the lending terms specified high insurance charges of the lending agreement as their main reservation.

When asked to point out any problems/shortcomings they may have encountered during the project, an overwhelming majority (99%) of farmers said they didn't have any issues with the project. The remaining 1% of farmers cited late delivery of products as a significant issue. Moreover, 69% of the respondents thought the project was better than their expectations, 31% of farmers said the project was up to their expectations, while none said that it was worse than they had expected.

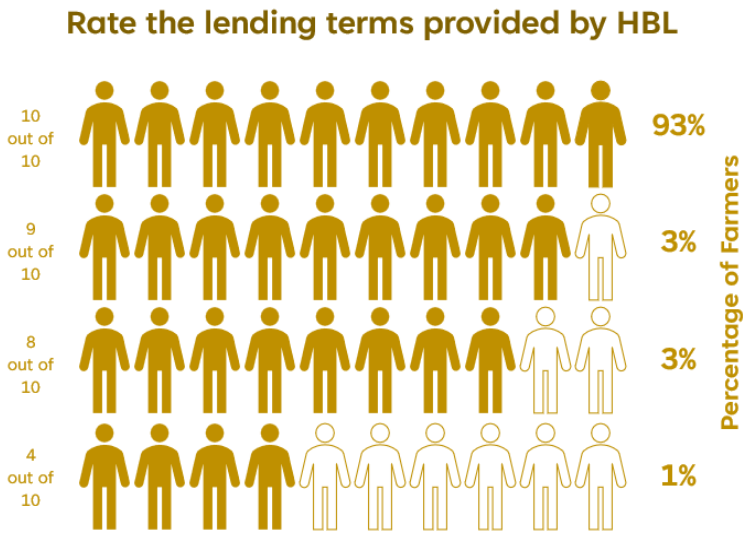


Figure 8: HBL's Lending Terms - Farmer Rating

RECOMMENDATIONS/CONCLUSION

The evidence presented in this report shows that HBL-contracted farmers' performance was clearly superior to an average wheat farmer in the Gujranwala region; this result is particularly impressive given the unique pricing structure of the wheat crop. In particular, HBL's client farmers reported around 14% higher yields and 15% higher profits relative to the regional benchmark farmer. As the government procures wheat directly from farmers at a fixed price, yield improvement was the only lever through which HBL farmers could achieve higher revenues relative to their competitors. In addition, a combination of factors, including better quality inputs, agronomic advice, and timely identification of low-performing plots drove higher yields for contracted farmers and also translated to greater profits. While these results are promising, there remain some persistent areas of concern as well as opportunities to further expand on the gains from the project. We highlight some of these below.

Consistent engagement with client farmers and input delivery improvements are having a sustained positive impact on farmer experience, highlighting the importance of farmer retention and responding to farmer feedback. As discussed in Section 3 of the report, HBL farmers gave a rating of 9.5 (out of 10) to the project's agronomy advisory, relative to a comparable figure of 8.5 out of 10 for the 2021-22 rice crop. These findings suggest that as farmers continue to engage with HBL, they recognize the value added by the bank's agronomy team, leading to higher levels of trust and compliance in farming decisions. Future expansions of the project should therefore focus on client retention in addition to sourcing additional farmers. Furthermore, input delivery for the wheat crop was much more timely relative to previous crop cycles. This factor is likely to have driven the increased ratings for HBL, as farmers had complained about the late delivery of inputs in previous cycles. Future surveys should continue to elicit farmer feedback on all critical dimensions of HBL's intervention so that any product deficiencies can be quickly identified and addressed.

The minimum support price for wheat may drive a particularly high exposure for the wheat crop. A government guarantee to purchase output at a fixed (inflated) price distorts farmer incentives as it encourages farmers to overproduce wheat and likely crowds *in* lower-quality farmers who may have expertise in growing other crops. Both factors raise credit risk for HBL; direct government procurement effectively makes HBL a residual claimant on the loan and eliminates the threat that delinquent payments will be punished by removing access to the bulk buyer. Additionally, lower-quality farmers may produce lower-yielding wheat. Given the sensitive political economy considerations with wheat, the support price is probably here to stay. HBL should account for this likelihood by provisioning more conservatively for loan losses and increasing monitoring of wheat to detect farmer non-compliance.

The identification of low-performing crops using satellite data should remain an integral part of any intended expansion of the project. We show in the report that the low performer intervention led to the timely detection of threats to crop health as well as farmer non-compliance. HBL agronomists' targeted advisory and visits to low-performing plots appear to have allowed these

lagging plots to “catch up” to the high performers. This is a novel finding relative to previous reports and shows that remote sensing can identify issues with crop health and *address* them before harvest.

Unlike previous crop cycles, climate change risk manifested as heatwaves and materially affected the yield for a significant fraction of the sample. While leveraging satellite data and remote sensing methods to identify affected farmers early in the cycle can mitigate eventual losses, a more coherent framework for identifying the sources of and adapting to climate risk is needed. Such a framework would identify strategies for shielding farmers from extreme weather patterns and pin down the vulnerabilities to the bank’s portfolio due to the same risk channel.

While farmer take-up of associated HBL products has improved relative to previous cycles, adoption rates for these services remain low and must be improved. The report highlights that around 90% of client farmers used their HBL debit cards either rarely or not at all. This figure shows that the intended financial deepening of most client farmers is not materializing. To address this shortcoming, HBL should consider launching a financial literacy campaign where it conducts demos on how various financial products can be availed, or even incentivize farmers by running promotions or providing discounts if farmers actively use their bank accounts and debit cards. As highlighted in previous reports, HBL stands to benefit enormously if formal financial inclusion increases for its client farmers. These benefits will likely outweigh any costs associated with encouraging take-up of the bank’s various financial services.

APPENDIX

HBL

AGRONOMY ADVISORY FORM

Section A (pre-filled)

Farmer Name
Farmer CNIC
Farmer Phone No.
Region Name
Plot Number
Plot Coordinates

Shaded area indicates target plot

Section B (to be filled by FO/Agronomist)

FO/Agronomist Name

Reporting Date: 14-01-2022

Issue(s) Identified (select all that apply): Pest ☐ Weather ☑ Fertilizer ☑ Water ☐ Other ☐

Details of Issue(s) Identified: There is only a few palces effected by Water & stress, and Some deficiency of Urea

Advice Provided to Farmer: Advised Him to Use Urea immediately.

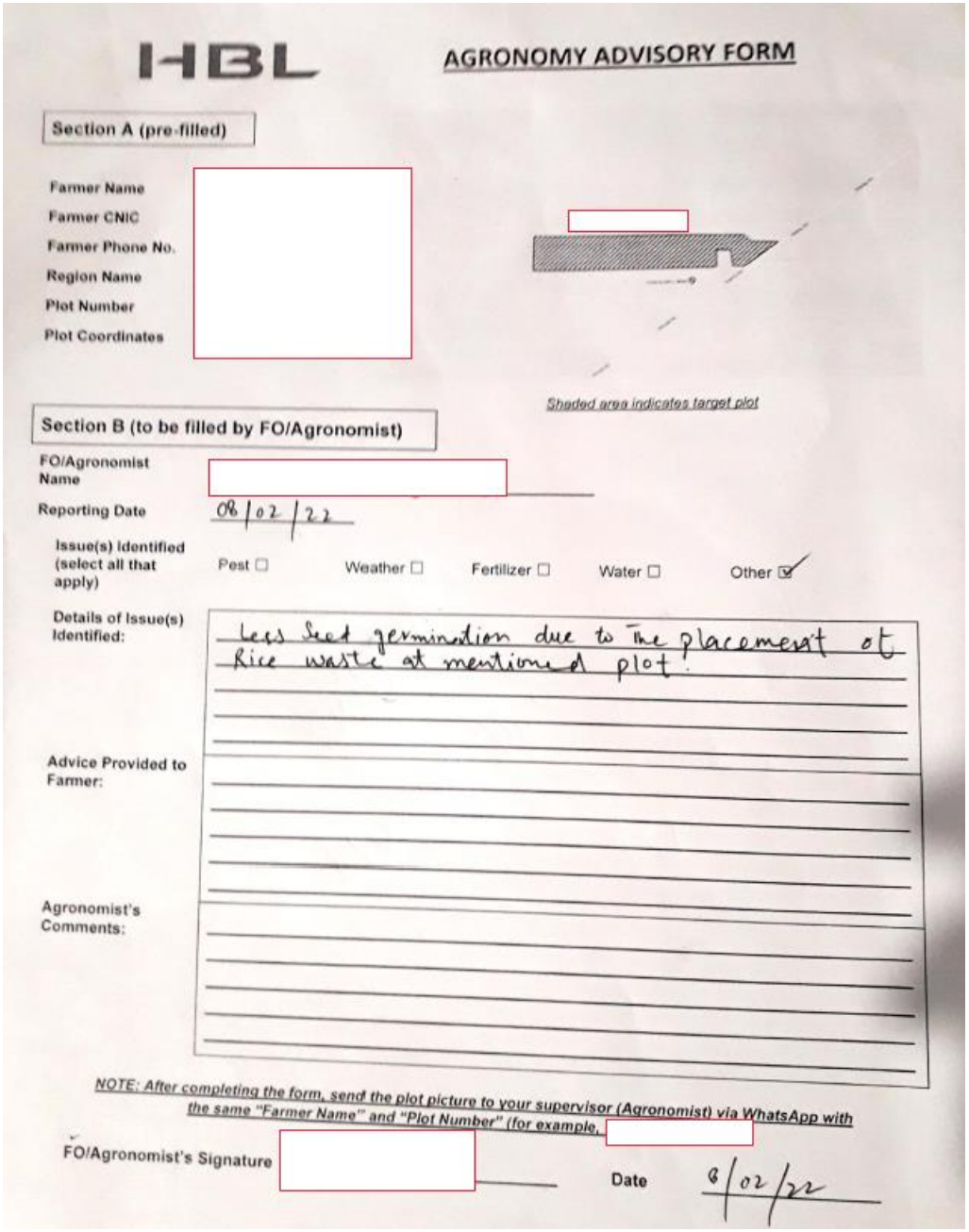
Agronomist's Comments:

NOTE: After completing the form, send the plot picture to your supervisor (Agronomist) via WhatsApp with the same "Farmer Name" and "Plot Number" (for example,

FO/Agronomist's Signature

Date: 14/01/2022

Figure 9: Low Performer Form (a)



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AGRONOMY ADVISORY FORM

Section A (pre-filled)

Farmer Name
Farmer CNIC
Farmer Phone No.
Region Name
Plot Number
Plot Coordinates

Shaded area indicates target plot

Section B (to be filled by FO/Agronomist)

FO/Agronomist Name

Reporting Date 08/02/22

Issue(s) Identified (select all that apply) Pest ☐ Weather ☐ Fertilizer ☐ Water ☐ Other ☑

Details of Issue(s) Identified: Less Seed germination due to the placement of Rice waste at mentioned plot.

Advice Provided to Farmer:

Agronomist's Comments:

NOTE: After completing the form, send the plot picture to your supervisor (Agronomist) via WhatsApp with the same "Farmer Name" and "Plot Number" (for example,

FO/Agronomist's Signature

Date 8/02/22

Figure 10: Low Performer Form (b)

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